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ORIGINAL ARTICLES.

THE ETIOLOGY AND TREATMENT OF TUBERCULOSIS OF THE JOINTS.*

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The etiology of tuberculosis is the same whether it invades the lungs or any other part of the body. Ubiquitous death strikes down a large number of its victims with the slow process of tubercular decay. It is considered in almost all cases hereditary. Children of tuberculous parents inherit the diathesis just as their powers of life and slow modes of nutrition are congenital. Yet I have no doubt that hereditary influences have been overrated. The disease is sometimes acquired, and it is a wonder that the cases are not more frequent and the fatality from tuberculosis is not greater, when we consider the infection of our surroundings. The sputa from consumptives, the evacuations from bowel, tubercular inflammations, the secretions from scrofulous affections of the lymphatic glands, the secretions of white-swelling, Pott's disease, caries and lupus. The products of all tubercular decay are carelessly thrown here and there, teeming with tubercle bacilli. These soon dry, are converted into dust, are wafted everywhere by the atmosphere and settle on everything "with its deadly burden."

The tubercle bacillus is a microorganism and loves to settle where nutrition is languid, to develop and propagate its species. There is no organ or part of the human body exempt from its infection, although

the lungs seem to be its favorite abode, and in almost all cases where we have cause to attribute the infection to hereditary influences, the lungs and bowels are involved.

Acquired tuberculosis is apt to follow local or general malnutrition, let it be brought about by the traumatism or by an acute or wasting disease or by a long-continued suppuration of any part of the body.

The peculiar habit of the tubercle bacillus is to get into the circulation by way of the skin denuded of its epidermis, by way of the mucous membrane denuded of its epithelium, or wherever there is an asthenic solution of continuity, and, as Dr. Gerster states, "to incorporate itself with a white-blood corpuscle and to influence it in such a manner as to convert it into a lymphoid cell of somewhat large proportions. This cell becomes sessile in some parts of the body." He further says: "After a while new lymphoid cells appear in the vicinity of the first cell, which by this time will have grown to the proportions of a multinuclear giant cell, containing a number of bacilli." And after going through many changes, he states that they result in a "coagulated granular mass. The bacilli contained within them disappear, leaving behind, however, a crop of invisible spores that, transferred to a suitable soil, will readily produce a new growth of bacilli. Soon caseation is established in these coagulated

*Read before the Texas State Medical Association, April 25, 1894.

decayed cell elements. The irritant effects of this cheesy mass on the surrounding tissue stimulated Nature to enucleate it as a foreign substance with an enveloping wall of new-formed tissues.

If this process of enucleation is complete before this infected focus throws out its spores through the lymphatics or veins lying in its vicinity, this infected necrosed mass is walled out as it were from the system. It is encysted. The system is protected from its baneful effects by its encysting membrane, by its caseation and by its non-osmotic action. In this state it gives but little trouble to the system or to the parts in which it is imbedded, not more seemingly than any encysted foreign substance of its size and consistency. This is Nature's method of protection. Now, if Nature is tardy in building this encysting wall, spores of the tubercle bacilli may be carried through the circulation by way of the veins and lymphatics, and possibly by the arterial flow, to invade other parts of the system, and we have a metastasis of the infection—a general irregular distribution of cytoblastions of tubercular infiltration to serve as so many depots for the distribution of these spores in order that they may have a wider field to do their mission, which is to break down the life of tissue wherever they take up their abode. From this source we may have any and all forms of tuberculosis. There is no difference in the gray and yellow, hard and soft tubercle, other than the changes they undergo by reason of age, by evaporation and by the absorption of the coloring matter and liquids of the matter they touch or in which they become infiltrated.

Now to account for tuberculosis of the joints is easy enough. The synovial membrane may become seriously infected with tubercle by way of the circulation from a distant focus, as in cases of pulmonary phthisis. In this case the nutrition of the synovial membrane is at a low ebb. There is no resistance on the part of Nature. Caseation of the lymphoid cell, as soon as it lights upon the synovial membrane, into a harmless mass does not take place. Nature does not encyst it with a protecting wall. It has reached its proper soil. Here it begins to break down nutrition and we have a synovitis and extension of tuberculosis from the lung to the joint. Again, the tubercle bacillus

may get into the circulation through some other portal, unite with a white-blood corpuscle, convert it into a lymphoid cell and become deposited in or near the joint as a primary affection. In this case nutrition may be good. The blood as it passes through the capillaries may be rich with a proper pabulum for the tissues to feed upon. There may be a great resistance on the part of Nature. This lymphoid cell of tubercular foci may undergo caseation. Nature may throw up a wall of new-formed tissue all around it to protect the parts in that vicinity from its baneful effect. Here it may remain sessile and apparently harmless. But it is only waiting for a proper opportunity. That opportunity may come with the first traumatism in the neighborhood of the joints. By a blow or sprain nutrition of the parts may be suspended, the encysting wall of this infected foci may be broken down, the sinuses and membranous sheaths of the joints begin to weep. These cheesy foci undergo emulsification, the tubercle bacilli are liberated to begin their deadly work and we have a more extensive tuberculosis of that joint.

Again, an increased exudation of blood serum and of white-blood corpuscles into this enucleated mass of necrosed tissue will dissolve and emulsify this caseous focus, and we have a cold abscess. The tubercle bacilli being liberated, turn their slow but sure forces with an untiring energy against their surrounding wall. In the course of time they break down this wall, and do a more extensive work of destruction in and around the joint. The synovial membrane pours out a greater amount of synovial fluid. The membrane itself soon becomes necrosed. The fluid thickens. Cheesy bodies float about in the fluctuating fluid. The epiphyses of the bones are perforated and they crumble. The cartilages become ulcerated, the denuded bones become necrosed and we have a severe tubercular arthritis. If this process of decay is not stopped here in this joint, the tubercle bacilli will soon increase to too great a number to inhabit this small abode and they will send an army throughout the whole system, and we will have a general tuberculosis; and in the course of time a general cessation of nutrition everywhere and the patient will be in the hands of the undertaker.

The treatment of any disease is always

simplified by a knowledge of the conditions to be met. There is no specific treatment in this disease other than its etiology should be met with a rational treatment. Since anæmia and malnutrition are the doors through which the tubercle bacilli get into the system, strive to build up nutrition by every possible means and endeavor to raise the anæmic to a higher plane of health. Then, whenever possible, lop out of the part or parts by aseptic and antiseptic surgery all traces of tubercle. There may be a dyspepsia to overcome. Anorexia, indigestion and irregularity of the skin, of the kidneys and of the bowels, are frequent concomitants and must be met with a treatment to appease and overcome. The whole system must be as near regulated as is possible. An abundant and rich supply of blood in the system is a prophylactic to the infection of tubercle, as well as it is to any other infection. Then treatment should consist in such measures as will add to the purification and rich quality and quantity of the blood, in order that nutrition of the tissues throughout the system may be promoted and protected.

For this purpose, a good, generous, rich, clean and well-prepared food from which blood can be made stands at the climax of all treatment. Fresh milk from a healthy cow and good bread are an excellent diet in tubercular affections. Cod-liver oil, which I class among the foods, is usually disgusting to the stomach, but combined with malt and other tonics, such as the iodide of iron or some good and palatable elixir, it frequently can be borne by the stomach and answer a good purpose. All tonic remedies are indicated, and we should select from them the tonics which will be best borne by our individual patient and which will be most apt to promote the appetite and digestion and to add to the quality of the blood. Good hygienic laws should be observed as the only mile-posts pointing to health.

Cleanliness of person and place of abode; a cheerful exercise of body and mind in bounds not prostrating; being clothed to best protect the system from the changes of temperature in the climate in which the patient lives; taking plenty of sunlight and fresh air during the day and sleeping in a well-ventilated room at night, are all good laws to observe and

need to be pointed out and advised by the physician.

Modern surgery offers much for the alleviation and cure of tuberculosis when affecting accessible joints. The affected tissues or organs must be more or less completely removed under antiseptic precautions to meet the demands of to-day. It does not promise much for tubercular arthritis which is secondary to pulmonary consumption, or where there is a general dissemination of tubercle throughout the system. In these cases nutrition may be improved and life may be prolonged for a while, but ultimately they are all fatal.

But when tuberculous cheesy foci are located in the vicinity of a joint, good results may be expected from a thorough going operation for their complete removal.

If emulsification has taken place in the cheesy foci, aspiration and washing out the cavity with a bichloride of mercury solution (1:1,000) until the fluid returns clear, and repeating the operation as often as the cavity refills, will frequently effect a cure.

When a tuberculosis focus perforates the joint and we have a synovitis and a periarticular abscess, free incision of the abscess, washing out the cavity with the bichloride solution and instituting free drainage, a cure by ankylosis, or probably with some mobility, is possible.

But if there be suppurative infection, widespread and rapid necrosis of the epiphyses of the bones and of the sheaths, tendons and membranes of the joint, the diseased joint or limb must be sacrificed to save the threatened life of the patient. The joint may be removed provided a thorough exsection of all the diseased tissue can be done and the resulting wound can be healed without suppuration. The infection of any part of the wound with bacteria must be prevented to accomplish a good result. Aseptic and antiseptic treatment, before and during the operation and assiduously applied during the healing process, will often succeed and deserves to be tried before a limb is sacrificed. Exsection of a joint should never be undertaken while there is high systemic fever, or while there is a great degree of heat in the parts, or while the vital powers of the patient are much prostrated.

Free incision into the joint with subsequent drainage and a tonic constitutional treatment should be instituted to pre-

pare the patient for the operation. And only after excessive heat in the diseased joint has been abated and the thermometer under the tongue indicates something near the normal standard of systemic heat should exsection be done.

The joint to be exsected should be washed clean, then with clean and disinfected hands and instruments the operation should be done, while a continuous or frequent irrigation of a germicidal solution (preferably the bichloride solution) is pouring upon the field of operation. The bones should be so divided and brought together in such a manner as will insure the greatest future usefulness of the limb. The retentives should be strong enough and so applied as to hold the parts in a fixed juxtaposition. The drainage-tubes should be disinfected and so placed in the wound as to admit of easy removal and, at the same time, carry off all waste products. The absorbent material should be boiled, then disinfected, and should be in ample quantity and quality to absorb all the secretions of the wound. The bichloride of mercury solution and iodoform or carbolic acid should be used continually; enough to render innocuous all the secretions of the wound and all the dust and filth that may fall upon the dressings from without. The wound should remain in this dressing and under this antiseptic regimen four or five weeks, when the dressings and drainage-tubes may be removed and, if need be, a new dressing applied. But if at any time the dressing should become very much soiled, it should be changed. Or if at any time the patient should have high fever and great pain in the joint, the dressing should be taken off and a search made for the cause, and if necessary a revision of the operation should be done to get rid of any remaining infection which might have been overlooked during the previous operation. If suppuration should occur and there should be much phlegmonous destruction take place in the joint after exsection, the surgeon should lose no time in amputating the limb as far above the infected joint as will be practicable, for on this will depend the slender hope of life.

Exsection is applicable principally to the shoulder, elbow, wrist, hip and knee. In all cases of serious infections of the ankle joint requiring operative procedures, amputation of the leg is probably the best

and safest, for the reason that the synovial membrane of this joint is so difficult of complete removal. Rational orthopædic measures of treatment after exsection will encourage a more rapid convalescence and insure greater future usefulness for the limb.

In the treatment of spondylitis, commonly known as Pott's disease of the spine, exsection is not at our command.

Constitutional treatment with free incision and drainage in case of abscess, with antiseptics and such orthopædic appliances as will secure fixation and the greatest support to the spinal column, are perhaps the only means at hand. However, by this treatment many cases of Pott's disease recover.

The Treatment of Biliary Calculi.

M. A. Ranglaret (*Gazette des Hôpitaux*) lays down the following as the main points in the medical treatment of biliary lithiasis:

1. The first is the treatment of the calculus. For this there is no drug that appears to have much influence against the calculus; we are almost powerless.
2. The second point is the state of the hepatic secretion. There is often torpid liver, thick bile, etc. For these conditions we employ the numerous cholagogues with advantage.
3. The third indication in treatment is relief of the pain. Here we employ analgesics and antispasmodics.
4. The last point in the management of these cases is the attention needed for the inflammation and infection. For this employ the antiphlogistics and antiseptics; the local application of heat and counter-irritants are very useful. If the congestion is very intense, put eight or ten leeches on the right hypochondrium, and repeat them if required. For the condition of angiocholitis, where there is infection, fever and chills, the salicylates may be employed. Benzo-naphthol is also good. But the best remedy to combat these symptoms is calomel. It must not be given in too large doses. The author recommends four to seven grains every two or three days.

It is believed by microscopists that the highest powers of their instruments have not yet revealed the most minute forms of animal life.

BRONCHITIS IN TYPHOID FEVER—MALARIA—DIABETIC
GANGRENE—TUBERCULOSIS.*

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BRONCHITIS IN TYPHOID FEVER.

Male, aged twenty-seven years. This patient states that he was in good health until last Sunday, five days ago. On that day he began to suffer from diarrhoea and since that time this looseness of the bowels has continued. The passages at first were large, but latterly they have been smaller. Besides this he has suffered from headache and has been unable to sleep at night. He also has a cough and has raised a little blood. He has had no appetite and has vomited several times. He has felt chilly during a good deal of the time. The man's temperature to-day is 101.5°. The urine is of a specific gravity of 1010; it contains no albumin. The tongue is coated. The pulse is rapid and fairly full; there is no increased tension; it is the rapid and full pulse that goes with a rise of temperature. The heart's action is increased in frequency; there is no murmur. There is impaired pulmonary resonance both above and below the clavicle on both sides, and the breathing is louder on the left side than on the right. There are no rales.

When you look at the man you can see that he is really ill. He has not simply an ordinary cough or an ordinary diarrhoea. The history he gives us is that of beginning typhoid fever, and there are one or two points in connection with it which are worth noticing. Very often at the beginning of typhoid fever there is more or less bronchitis. That is what this man has had and it is apt to lead us astray from the real diagnosis. Still further, in this man there is a change in the resonance over the front of the chest, more marked on the right side than on the left, and there is a difference in the breathing. This may very well mean that there has been an old tubercular change in the upper part of the right lung, with some retraction, but that has no direct bearing on his present condition. During the first few days of typhoid fever the symptoms are very often of such a character that they

make you think of other things. I saw yesterday in consultation a patient in the fourteenth day of typhoid fever, and the diagnosis had not been made simply because he had a bronchitis, just as this man had. The symptoms in this case at present are not severe; and, as a matter of fact, the cases of typhoid fever we are seeing this fall in New York are running a pretty mild course. I do not think there are any special indications for treatment in this case. The man should go to bed at once and stay there, because we know very well that the longer a typhoid patient keeps up during the first week of the disease the sicker will he become afterward. It is very well to try to fight off some milder ailments, but with typhoid fever the sooner the patient gives up and goes to bed the better are his chances of early recovery. He should be put on a fluid diet, and for the insomnia I know of nothing better than sulphonal, in twenty-grain doses.

MALARIA.

Male, aged twenty-nine years; a tailor by occupation. Has been living in New Jersey for the past two years; came to this city on the 3d inst. For three months past he has had chills, fever and sweating, with headache every other day. Since the 6th inst., however, these paroxysms have occurred daily, and instead of coming on at ten o'clock in the morning, as they formerly did, they now come on at eight o'clock. He has no appetite. His pulse is weak and rapid. His bowels are constipated. His temperature now is 102.5°. His urine contains no albumin. His chill this morning lasted four hours. The tongue is slightly coated and moist. The spleen is considerably increased in size and tender.

The history of this patient is a clear one of malarial poisoning. The man states that he has been taking fifteen grains of quinine daily, but instead of growing better, he is growing worse. His paroxysms are coming on every day instead of every other day, and the chills

*A lecture delivered at the Vanderbilt Clinic, New York, October 11, 1894.

occur earlier in the day. This is really a much more severe case of intermittent fever than we are apt to meet with in New York City or in its immediate vicinity. Still, there are parts of New Jersey where the malarial fever assumes a pretty bad type, and I have even seen malignant cases there. When we come to the treatment of such a case as this, the first thing I would recommend is that the patient should go to bed. Then as to the feeding. These patients do not have any appetite, and yet, when they are free from the fever, they are capable of digesting food, and you must not allow them to run down too much on a fluid diet; fluid food will answer in some cases, but still patients will not flourish under it, and in these cases you should try to get in a little solid food when you can. Scraped beef is the form of solid food that is most easily digested. You do not want to manage a case like this as you would one of typhoid fever. Another point is that the remedies for the malarial poisoning are more likely to have effect when the bowels are kept open. This should be done not by enemas or suppositories, but by a laxative, and generally speaking one of the salines is best: sulphate of magnesia or Carlsbad salts or the ordinary Seidlitz powders, given about every other day. As regards drugs, I think we can rely upon quinine, even if the patient tells you, as this one does, that he has already taken it and that it has not benefited him. There is a difference in the quality of quinine, and there are different methods of giving it. In a case like this it is best given in solution. You want to get the effect of the drug. The best way is to make up a solution so that each dram of water will contain five grains of sulphate of quinine and five grains of dilute sulphuric acid. I do not think it is worth while to try to disguise the taste of the drug with syrups; it is impossible to disguise it. You commence giving the drug in the afternoon, after his paroxysm has passed off, and give five grains every hour until he has taken thirty grains. This should be repeated the next day, and if after two or three days it becomes evident that he is not improving, I should begin to increase the quinine, if necessary giving him one hundred grains within twenty-four hours, unless poisonous symptoms appear. It is not safe to allow a case of malaria like

this to go on without vigorous treatment, as it may readily assume the pernicious form and prove fatal.

DIABETIC GANGRENE.

Female, aged fifty-five. Three years ago began to fail in flesh and strength and to pass her water more frequently, especially at night. These symptoms gradually became worse. Five weeks ago one of her toes became swollen, red and painful. Two weeks later she came here for surgical treatment, and it was found that the affected toe was in a gangrenous condition. Examination of her urine revealed the presence of sugar and she was sent here for medical treatment. During the past week she has been on a diabetic diet, and has received in addition one-quarter grain of codeine, three times daily, with iron and strychnia. To-day her urine is of a specific gravity of 1040, and you can see that there is a large reduction of copper at the bottom of the test-tube, which means that the urine contains a considerable proportion of sugar to the ounce. She has lost flesh and strength. The urine is not very much increased in quantity. As the foot has just been dressed by the surgeon, I will not remove the bandages. The end of the toe is black and shriveled, and just above this there is a line of granulation tissue which is suppurating slightly, and which marks the line of demarcation between the dead and the living tissues. The gangrenous process in these cases usually begins in one toe and then extends to another, or it may extend upward. These patients with diabetes and gangrene are always elderly people. A young person with diabetes does not have gangrene. In some of these patients you first get the history of the diabetes; in others, of the gangrene. Some will tell you that they have been passing too much water, that they have been unnaturally thirsty and that they lost flesh and strength before the appearance of the gangrene; others will tell you that they have been in their natural health, and the first thing they noticed was the onset of the gangrene. In all these cases, however, when you come to examine the urine, you will find that it contains sugar. Still further, you will find that the arteries are tortuous with thickened walls. On account of this chronic endarteritis the arterial supply of

blood is cut off and gangrene is the result. It is not the result of the sugar in the urine, but of the interference with the arterial circulation, and yet there is this curious thing about it, that the sugar is always present. We do not know why this combination should exist. As regards the treatment of these cases, it is equally unsatisfactory for the gangrene and for the diabetes. You can readily see why the gangrene is not likely to do well; the arteries are obstructed and you cannot bring back the blood-supply. The affected tissues are allowed to slough away or they may be removed by the surgeon. I find that some surgeons remove the gangrenous tissues, while others allow them to slough off, and it does not seem to make any difference which plan they pursue. The medical treatment is just as unsatisfactory, because we cannot control the diabetes. These patients continue having sugar in the urine, and I do not think it is wise to try and treat them very vigorously. They should be put on the diabetic diet, but not too strictly; do not starve them. We know that we cannot cure them; they will not live a great while and there is no use in being too strict. The medical treatment amounts to nothing. Codeine is usually advised, and we might as well give that as anything. All we can do is to make these patients as comfortable as possible.

TUBERCULOSIS.

Female, aged sixteen years. This patient, according to her mother, has never been very robust. Last April she had an attack of scarlet fever from which she recovered, but from that time to the present she has been failing. She is losing flesh and strength and is growing paler. She has a cough in the morning without expectoration. She has had no hæmoptyses. Her appetite is fair. Her temperature to-day is 99.8° in the mouth. There is some shortness of breath. On the left side of the chest the resonance, while not a full one, is not much impaired. On the right side, both above and below the clavicle, the sound is shorter, the pitch higher and the quality is different from that on the left side. The quality of the breathing is also changed: the breathing is that of a lung which is partly consolidated. There are no râles on either side. The

case seems to be a straightforward one of tubercular inflammation of the upper part of the right lung, which commenced about the time when the girl was recovering from scarlet fever. The girl is very much emaciated, her color is bad, and it must be confessed that the case is not a very promising one. She does not look like a good subject for a tubercular inflammation. She is getting worse rather than better. If her circumstances would allow it, a change of climate might perhaps benefit her, and in her case I would select a warm inland climate. Her circumstances are such, however, that she must stay at home, and the best thing we can do is to try and nourish her as well as possible. I would not advise giving her creasote, or any drugs directed immediately to the lesion in the lung. We can learn from the girl's mother what sort of food she is able to buy, and then make out a diet list, and add to that fat in some form, either cod-liver oil or cream or milk.

How to Arrest a Boil, Carbuncle or Malignant Pustule.

Dr. Barker writes to the *Medical Summary* that he has used the following procedure for several years, with unvarying success. Take a large hypodermic syringe, holding, say, half an ounce, fitted with a small needle. Fill it with a 1 to 500 solution of mercuric chloride, insert the needle into one of the peripheral openings, in case it is a carbuncle, and wash out the little cavity. Then direct the needle toward and into the surrounding induration and force a little of the solution into it. Treat each opening and its corresponding peripheral circumference in the same manner, carefully washing out the necrosed connective and other tissues that have become separated. Repeat this daily with the solution, gradually reduced to one-half the original strength, until all induration has disappeared and granulations have begun to appear. If the first injection be thoroughly performed, the spread of the carbuncle will be arrested at once, and there will be no more pain. Washing out the little cavities is painless, but the injection into the indurated tissues is not free from pain. The same treatment is applicable to the little furuncles that invade the meatus auditorius externus and the inner surface of the alæ nasi.

INFLAMMATION OF EXTERNAL AUDITORY CANAL FOLLOWING
FACIAL ERYSIPELAS.

P. R. CORTELYOU, MARIETTA, GA.

Mrs. C., widow, aged 68, consulted me January 1, 1894, giving the following history: In August, 1893, she was attacked with facial erysipelas on the right side, commencing on under lip and extending entirely over the right side of face, but leaving the left side unaffected. The usual treatment of tincture of chloride of iron internally and tincture iodine and nitrate of silver externally was used by her family physician. The inflammation involved the right ear, which became swollen and, after a week or ten days, began to discharge very offensive matter. This condition was treated with warm carbolized injections and laudanum and olive oil dropped into canal. The inflammation subsided and the discharge from the ear ceased from the latter part of October until the latter part of December. During this time the patient complained of deep-seated pain in the right ear, and intense burning of the side of the face, lower lip and tip of the tongue on same side, the feeling being, as the patient expressed it, as though the parts had been touched with a coal of fire. The face on that side would also become very much flushed. Her physician told her that these symptoms were not caused by the condition of the ear, but were due to the state of her nervous system. Various measures were tried to relieve this intense burning, but all without success, the patient suffering very much from its daily and almost constant occurrence. The discharge from the ear coming on again the latter part of December, 1893, she then consulted me.

On examination I found the lobe of the right ear somewhat swollen and tender, also swelling and tenderness of the tragus and face near it. A thick, heavy discharge from the aural canal, very tenacious, with severe burning pain of the side of the face, lower lip and tip of the tongue on the right side. Hearing distance of watch, "contact." The throat also showed some pharyngitis and post-nasal irritation, and the anterior nasal canal on the right side was congested and irritable. The patient

said that often it became completely stopped up, especially at night.

The ear was syringed with warm water, after which a 12-volume solution of peroxide of hydrogen was dropped into the canal, which caused, as the patient expressed it, much frying. The canal was then dried with absorbent cotton. Upon examination with an aural speculum, it was found to be denuded of epithelium in places, especially near the drum membrane. The inflammation showed a condition of acute eczema of the canal. The canal was filled with powdered boric acid. The throat and nasal passages were then sprayed with an alkaline solution and the fluid extract of hydrastis (colorless) applied on cotton. The ear was inflated by Politzer's method and the nasal passages then sprayed with albolene, with 10 drops of eucalyptol to the ounce. Also I ordered Fellows' syrup of hypophosphites combined with Fowler's solution of arsenic three times a day.

The local treatment of the ear and nasal passages was made every other day, and on this line of treatment there was much improvement; the burning of the face, tongue and lip was much less. Hearing distance for the watch increased to four inches. The aural canal not assuming healthy action, I applied nitrate of silver, 20 grains to the ounce, two or three times a week.

The latter part of February, from exposure and cold, the inflammation returned in an acute form, the lobe of the ear becoming much swollen and very tender; also the tragus and the parotid gland became very tender and congested; the pain and burning in the face, lip and tongue were very severe. I ordered syringing with hot water, also slippery elm poultices alternated with a hot salt bag applied to the ear. A four per cent. solution of cocaine was dropped into the canal as needed to relieve the pain, and anodynes were given at night to promote sleep. After a few days there was a free discharge from the inner part of the tragus and also from several points of the canal, with re-

lief of pain and swelling. Again I used the solution of peroxide of hydrogen and, as a dressing, powdered boric acid, alternated with powdered aristol. I gave as a tonic an elixir of three chlorides in place of Fellows' syrup of hypophosphites.

March 19th. The patient began to improve, but the canal still showed a tendency to keep raw and irritable, and was in a condition of chronic eczema. I ordered sulphate of zinc, 15 grains; alcohol, ʒij; aquæ, ʒij, to be warmed and dropped into the ear several times a day. This

change of treatment acted nicely; the swelling disappeared and the canal became more open; the pain and burning were considerably relieved, but did not disappear.

The case is still under treatment, but now with good prospects for recovery. This case to me has been an interesting one, on account of the special symptoms of burning on the side of the face, lip and tongue, and its being confined to the right side, showing some implication of nerves on that side.

COMMUNICATIONS.

DESTRUCTIVE LESIONS IN ACUTE TUBAL INFLAMMATION.*

GEORGE ERETY SHOEMAKER, M.D., PHILADELPHIA, PA.

So much attention has been given to the clinical history and treatment of tubal and ovarian inflammation that the matter might seem to have been exhausted. Yet cases are not uncommonly appearing where the extensive character of the destructive processes going on has evidently not been realized. It is not every case which tends to recovery on expectant treatment, and it is worth while again and again to call attention to what may occur, if only to induce more men to use eye and hand in diagnosis, instead of relying altogether on clinical history.

So much attention has recently been given to the subject of appendicitis that the rapidity with which its tissue may break down and the surrounding peritoneum be infected is becoming widely understood, and a prompt appeal is now commonly made to physical examination; and in the event of doubt, to the highest court available.

The present object is to present again the fact that inflammation of the tube also may be rapidly destructive, with the formation of pus in quantity great enough to endanger life through softening and rupture of its limiting wall, whether that pus be highly infective or not.

The analogy between the appendix and the tube is not without interest. Both

are free in the peritoneal cavity, supported along the edge of a membranous fold; both have muscular, mucous and peritoneal coats.

They are not unlike in size, though varying greatly; while as to situation, the right tube lies very near and often in contact with the appendix, being frequently involved in the same inflammatory process. They are exposed from within to diverse forms of infective bacteria, but either may be infected from the other by continuity after adhesions have formed.

Catarrhal inflammations which do not go on to pus formation or degeneration of tissue occur in both structures, but more frequently in the tube, owing to its greater vicissitudes from situation and function.

The very rapidly progressive inflammations, however, going on to gangrene, rupture and death from peritonitis within three or four days, are relatively common in the appendix and rare in the tube, the destructive process usually taking much longer in the latter case, though everything depends on the character of the infection. A rapidly fatal case with gangrene of the tubal mucous membrane is mentioned by J. Bland Sutton.*

One cause of this difference is mechanical. In the case of the appendix, a hard body, usually fecal, just fills the lumen

* Read before the Philadelphia County Medical Society, October 10, 1894.

* "Diseases of the Ovaries and Fallopian Tubes," p. 236.

before the attack begins. The swelling of the mucous membrane makes the lumen too small for the body inside; pressure results which, aided by the ever-present bacterium, in a few hours causes strangulation and local death. In the tube, on the other hand, there is no foreign body and no local pressure, rupture occurring later at a point gradually thinned by diffused pressure and local degeneration.

Another reason for the relatively greater protection of the general cavity of the peritoneum in the case of the tube is anatomical.

Between its peritoneal covering and the muscular coat is a quantity of loose connective tissue, which, becoming thickened and distended by inflammatory cell infiltration, greatly strengthens the natural barrier against infection from within in the early stages of the disease, and gives time for the formation of adhesions without. In a tube from one of the cases reported this can be well seen. The wall near the uterine end has been cut partly through, and the outer or connective-tissue envelope, about an eighth of an inch in thickness, is peeled back, showing the central rod-like portion undistended and still intact. That portion of the tube is not irretrievably injured in all probability. In some acute cases the same process is seen in the broad ligament which, after all adherent structures are removed, remains half an inch or more in thickness instead of only a line or two. The cellular tissue between the folds of peritoneum has been infiltrated. It has occurred to the writer to observe this condition best marked in subacute cases which have followed puerperal infection. There is a sense then in which what was once called "cellulitis" really occurs, though the ideas of pelvic pathology formerly held have been so largely proved to be erroneous.

Where salpingitis goes on to pus formation, the sequence of events is frequently as follows: The abdominal end of the tube is closed and its cavity distended by retention of the secretion of its walls and by pus formation. The layers of the mesosalpinx are separated until tube and ovary are in contact and adhesion occurs, or else tube and ovary adhere directly without splitting the mesosalpinx. The tube wall thins and the ovary becomes involved secondarily* through a distended

ovarian follicle, when tuboovarian abscess results. The ovary now enlarges until its pus contents frequently exceed those of the tube and measure several ounces.

The after-history of these cases, if they escape an early death, is usually made up of progressive invalidism varied by intervals of relief, if by chance the pus empties intermittently into bowel or bladder.

When the abdominal end of the tube does not close quickly enough, peritonitis, which may or may not be limited, is set up by direct escape of fluid from the end of the tube, as in Case II.

CASE I.—Tuboovarian abscess; operation; recovery. This illustrates the rapidity with which total destruction of the adnexa may occur, as the gross changes observed had all developed within a known period of eighteen days, or perhaps earlier. I made careful bimanual examination just at the beginning of the attack, and found the pelvic organs practically normal in size, while at the operation each ovarian abscess alone was three inches or more in diameter. The woman was twenty-three years old, married seven years, childless; her second miscarriage, four years before, having been followed by sepsis, which had left her with various pelvic symptoms, but no gross lesions. She was well-nourished, and able to work until an acute attack of pelvic distress brought her to the Methodist Hospital, where she at first entered the surgical service of Dr. H. R. Wharton. When seen by the writer in consultation she presented a flat abdomen, tenderness in a prolapsed left ovary and in the bladder wall, but both tubes and ovaries were normal in size, as was the uterus, which was noted as forward and movable. The general condition was good, and many details of examination, purposely omitted here, were negative. In other words, though she was afterward proved to be on the eve of a violent attack of pelvic inflammation, it had as yet scarcely begun. General treatment was advised, with laxatives and hot douches. She grew rapidly worse, however, in the next ten days, the temperature reaching 104.2°, and exquisite tenderness and tympany supervening.

When examined by Dr. Kynett, under whose care staff changes had now brought her, the uterus had become fixed, and a tender mass had appeared on the right. Eight days later she had been transferred

*Bland Sutton.

to the hands of the writer, and the abdomen was opened. With care and gentleness an attempt was made to separate the adherent coils of intestine from a large mass at the right, but several ounces of thick yellow pus immediately welled from the wound. The sac was evidently on the point of rupture on its upper convexity, where a blackened, sloughing area, an inch in diameter, was about to give way at its center. With some difficulty a tubo-ovarian abscess was excavated from each side of the pelvis. The lumen of either tube was of the diameter of the thumb, the length increased to about six inches, while the two principal pus sacs, one apparently in each ovary, were three or more inches in diameter. The sac on the left was in the recto-uterine cul-de-sac, and contained highly offensive dark red pus. Being tightly wedged in the depths of the pelvis, held below by firm adhesions, and having a wall much softened and degenerated, this sac also was ruptured in removal. Both tubal and ovarian sacs were completely removed. Because of the black and degenerated appearance of the adhesions which occupied Douglas' pouch, and of the thorough infection of the pelvis by pus distribution during the operation, after flushing and a careful toilet, a gauze handkerchief stuffed with strips of iodoform gauze was packed into this space, and brought out at the lower end of the wound below the glass tube. This gauze was removed on the second day, and stitches, previously put in, tied down as far as the glass tube, after the cavity occupied by the gauze had been cleaned with hydrogen peroxide. For the first two days only there was some vomiting, and liquid food in small quantities was given by the bowl.

Glass tube out on the seventh day. The convalescence, somewhat slower than usual, was complicated by slight superficial suppuration about the drainage-tube end of the wound, so that the patient was not allowed to sit up until the twenty-eighth day instead of on the twenty-first, as is my routine practice. She was discharged well five and a half weeks after the operation. She reports herself well five months later, though with some pain at times.

This specimen, though shrunken by several months' immersion in alcohol, serves to show the condition of the tube

and its free communication with the ovarian sac. The point of softening and imminent rupture is seen as a small opening. It would be difficult for me to believe that these extreme changes had occurred so rapidly had I not had an opportunity of mapping out the parts beforehand.

CASE II.—Post-puerperal inflammation of both tubes and ovaries, with left pyosalpinx and hematoma of right ovary; operation; recovery and cure. This case illustrates a less advanced condition than the other, pus formation having occurred in one tube only, while different portions of the specimens serve to illustrate steps in the process of destruction.

S. B., aged thirty years; married nine years, three children, three miscarriages. Menses normal until two periods missed four months before. Probable miscarriage two months before applying, with recurrent hemorrhage and several attacks of sharp abdominal pain since, though working as usual. Five days before there was a sharp attack of pelvic pain with fever, which confined patient to bed two days. Examination on admission to the Methodist Hospital showed a subinvolted uterus, with cervix soft and patulous, with tense fixed tuboövarian masses on each side. There was endometritis, but no physical signs of extra-uterine pregnancy were present, though the history suggested it in many ways.

Coeliotomy was done next day, after first curetting a quantity of soft tissue resembling placental debris from the uterine cavity, which was irrigated thoroughly and packed with iodoform gauze for drainage.

Abdominal incision showed the small intestine and sigmoid flexure moderately adherent to the tuboövarian mass. On the left a small pocket of grayish-red pus, not offensive and not over two drachms in quantity, was disclosed outside the tube and walled in by adherent intestine. This was in all probability the result of leakage of the tube before its outer end was sealed. The ovary was normal in size, inseparably united to the tube, which was hard and contorted, its color very dark red, but nowhere black. The mesosalpinx was not split. The tube was thickened by cell infiltration at the uterine end, gradually enlarging from a diameter of one-half an inch to one inch at the ampulla, which contained reddish-gray pus. Both tubes

were sealed and their fimbriæ lost in adhesions. Both broad ligaments were infiltrated to a thickness of half an inch. The right tube was shorter and smaller than the left, but though firmly buried in strong adhesions it contained no pus. It was very hard. The right ovary contained a hematoma about two inches in diameter, the blood being black and semifluid. Total removal of tubes and ovaries; flushing; glass drainage; good recovery. The woman was seen well and working five months later, complaining only of the flushing due to artificial menopause.

The specimen here shown exhibits in its different parts stages in the progress of salpingitis. Near the uterine end of one tube which has been split may be seen the greatly swollen longitudinal folds of mucous membrane not yet adherent together.

Mucous surfaces do not adhere, when inflamed, as early as do serous surfaces. These folds, when swollen, very tightly fill the tube, so that it feels hard, and when it is cut longitudinal they appear to have been inclosed in a space too small for them, so that the incision will not close again. Farther out in the dilated ampulla pus was found, and the structures are extensively altered in appearance. The fimbriated end had been sealed by covering in the fimbriæ and packing them together inside the tube, the serous covering swelling and uniting outside them. Though they are somewhat adherent together they still can be distinguished. Later on in the disease they would become disorganized or lost in the wall of what had become simply a pus sac with smooth rounded end.

EXHIBITION OF CASES ILLUSTRATING THE OPERATIVE TREATMENT OF ILIAC (SPINAL) ABSCESSSES.*

JAMES K. YOUNG, M.D., PHILADELPHIA.

These cases illustrate the operative treatment of iliac abscesses of spinal origin.

CASE I.—Martin W., white, male, aged four years.

Family history: Negative.

Past history: Natural birth. At ten months, croup. At four years, brought to University Hospital Dispensary, having suffered for six weeks with pain in left thigh. During this period he has had a limp, and has been supposed to have had rheumatism. He has had night cries.

Mensuration showed:

Length—R. L. 18" Circ. @ 3" = 9½ @ 5" = 10½.
R. calf = 7½".

Length—L. L. 17½" @ 3" = 9½ @ 5" = 10½. L. calf = 7½".

Diagnosis at this time was doubtful, the psoas irritation resembling incipient coxalgia. Later, lumbar Potts was indicated by the characteristic posterior deformity.

At five years of age, in January, 1894, had chicken-pox and "grippe." At this period the kyphosis was slowly enlarging. The child had been wearing a Taylor spinal brace for four months. The brace being out of order, the child was put to bed at the end of January, 1894. The day

after removal of the brace a tumor appeared in the left groin.

February 5, 1894. Admitted University Hospital. Examination shows the tumor in the left groin to be above Poupart's ligament just internal to the anterior superior spinous process of the ilium. It is a fluctuating swelling, easily distinguishable from a hernia, to which it has a superficial resemblance. The patient's back shows a slight kyphosis involving the second and third lumbar spines.

Diagnosis: Pott's disease with slight kyphosis, and coexistent with ilio-lumbar abscesses. Operation by Dr. De Forest Willard on day of admission. Ether anesthesia. Abscess cautiously opened; much pus evacuated. Counter-opening made in back, and rubber drainage passed through.

9th. Discharging freely.

10th. Temperature 102½°. Enema followed by drop in temperature.

22d. Temperature still hectic. Sinus washed out with peroxide of hydrogen and sublimate solution.

24th. Onset of measles. Isolation.

March 16th. Out of quarantine.

29th. Plaster jacket. Discharge has lessened.

*Read before the Philadelphia County Medical Society, October 10, 1894.

April 20th. Back and groin healed; is up in chair.

May 16th. Cast removed; brace applied; child walks.

23d. Discharged, well.

CASE II.—Raymond C., aged four years; American.

Family history: Maternal grandfather died of phthisis.

Past history: First symptom noted by mother in April, 1893; child waking screaming and rigid at night. Three weeks later a severe chill, accompanied by muscular spasm.

Previous treatment, the application of a liniment advised by a physician.

Examination shows marked lordosis.

Treatment: The application of a Taylor brace, and syr. hypophosph. simp. drachm j., t. i. d.

Diagnosis: Lumbar Pott's disease.

Present history: Admitted to University Hospital, July 15, 1894. Patient complains of pain in sitting posture. The spine is still arched. There is distinct fluctuation in left iliac region, which is slightly prominent and may be said to be pointing just above Poupart's ligament. This abscess is probably of vertebral origin.

Operation: Operation by Dr. James K. Young, July 20, 1894. Incision in line with Poupart's ligament, along its outer third. Pus evacuated. Counter-opening a little above sacro-iliac junction. Antiseptic precautions; iodoform dressings.

For these notes I am indebted to Dr. Jos. M. Spellissey, assistant surgeon in the Orthopedic Dispensary.

I had intended reporting a similar case which occurred in private practice, in which Dr. Willard, Dr. Ashhurst, and myself were associated. In this case it was considered advisable to either trephine the upper part of the crest of the ilium or remove a portion with a rongeur forceps, so as to permit the drainage-tube to lay flat in the iliac fossa. The latter was done, and appeared to facilitate the drainage and healing of the abscesses rather than retard them.

The frequency of these abscesses is well shown in Michel's statistics, in which out of forty-eight abscesses of spinal origin, thirty-nine, or 70 per cent., were in the pelvis.

In regard to the treatment, the opinions of authorities range from extreme expectancy to early and radical operation.

Two plans of treatment are offered: that of expectancy and that of incision and drainage. Cases are recorded in which, under expectancy, recovery has ensued; notably one each of Drs. Taylor, Bradford and Lovett, and I have one now under observation in which absorption appears to have occurred.

There are two other methods to which attention must be called:

1. Repeated aspiration.

2. Injection of fluids to promote absorption.

The former is unsatisfactory on account of non-withdrawal of caseous clots, and the latter dangerous, and in some cases fatal, from absorption of carbolic acid. The objections to the early radical operations, especially erosion of vertebræ, is the high mortality, and Dr. Rupprecht, of Dresden, informed me six years ago that after a fair trial he had abandoned the radical operations, because 50 per cent. died from the operation. The operation here advocated is performed under strict antiseptic precautions. The abscess is opened by careful dissection, it is thoroughly irrigated with boiled water and boric acid solution, a long, grooved director is passed up to a point above the sacro-iliac juncture, and a straight longitudinal incision is made upon it. A rubber tube is passed through and secured with safety pins.

Emulsion of iodoform (10 per cent.) ʒss is thrown in, iodoform gauze packed about the wound, and a bichloride dressing applied.

Indications: The indications for the operation are: (1) where the abscess is large and making pressure upon important organs; (2) where the abscess is increasing rapidly in size; (3) where there is danger of rupture of the abscess into the peritoneal cavity.

VOLUNTARY muscles are almost always red; involuntary muscles are generally white, the most notable exception in the latter case being the heart.

THE blood flows almost as freely through the bones as through the flesh of very young children, but as age comes on the blood-vessels in the bones are almost filled with matter.

ILIAIC ABSCESES, NON-SPINAL IN ORIGIN.*

DeFOREST WILLARD, M.D., PHILADELPHIA.

Iliac abscesses arising from causes other than spinal caries are not infrequent. Accumulations of pus in this region should receive careful attention, as the prognosis will be greatly influenced by the source of trouble. I have seen a considerable number of these pus accumulations either from direct or indirect violence. In several instances the individual has been conscious of a sudden pain or "giving way" within the pelvis during violent exertion or sudden wrench of the body, or from other peculiar movements. This is usually followed by pain or discomfort. In two or three of my cases the pain has lasted for months, and in one instance for a year, before any positive results were discoverable. In the majority of cases a rupture of some fibers of the iliacus probably takes place, suppuration follows, and the pus slowly makes its way downward toward Poupart's ligament.

There is usually slight flexion of the leg, or at least an inclination to relieve the pain by relaxation of the tense sheath.

At the present day it is well to remember that an individual may have pain and inflammation even in the right iliac region without having appendicitis, and that a woman may have a pelvic abscess which is not due to tubal disease.

One case I recall where a man had suffered for months and had become greatly emaciated and exhausted, presenting the appearance of tubercular disease, yet was speedily and thoroughly cured by through-and-through drainage of a pus cavity in this region.

In another case the condition found was apparently due to degeneration of the tissues from an attack of the grip. The patient was not conscious of any injury having been received in this region, yet there was a possible history of rupture of some of the fibers of the iliacus several months previous to an attack of influenza. When seen he had high temperature, chills, perspiration, etc., and had been in bed many weeks, suffering intensely with pain down the leg and in the hip. The hip was partially flexed and adducted, but

there was no thickening about the trochanter or hip-joint. The left iliac fossa was firm and dense, and a large tumor presented under Poupart's ligament extending down the vessels.

Two quarts of pus were evacuated through an incision just below the anterior spinous process, and a tube was carried back to a counter-opening made above the crest of the ilium. No bare bone was discoverable, and all the symptoms of hip disease were speedily relieved. There was absence of evidence of spinal caries.

In another case the mass was at first believed to have originated from an appendicitis, but this supposition was afterward proven to be unfounded.

In another instance there was deep-seated pain, emaciation, and so forth, indicating malignant disease. An incision was decided upon with the result of obtaining a large amount of pus; successful recovery ensued. In this case there was absence of all evidence of bone disease, and the result justified the diagnosis.

The conditions with which these abscesses are most liable to be confounded are abscess from spinal caries, from hip disease, and from innominate disease. I have seen a number of cases of the latter complaint, where the caries has been situated upon the inner side of the innominate bone, and in one instance the ostitis was at the internal face of the sacro iliac junction.

It is frequently difficult to decide in a case of bared iliac bone whether the bone lesion was primary or whether it is a secondary result from maceration in the pus.

A careful history of each case is requisite in arriving at a conclusion, and in some instances a diagnosis is only possible after an incision. In spinal caries there will necessarily be rigidity of the back, but not necessarily pain nor even deformity. If there is vertebral ostitis there will usually be a history of "stiff back." Of course, if kyphosis is present, the diagnosis is easy.

A diagnosis from abscess from hip disease which has perforated the acetabulum is not always easy. There may be flexion of the hip; there may be adduction or ab-

*Read before the Philadelphia County Medical Society, October 10, 1894.

duction, and there will necessarily be rigidity with fixation, especially if tension be put on the iliac muscle. To make a correct diagnosis requires close attention to the whole group of symptoms. If a surgeon considers a single symptom rather than the group he will find it easy to confound these abscesses with any one of the conditions already mentioned.

I have seen a number of cases of sarcoma in this region (*Med. and Surg. Rep.*, 1894), and in the early stage I do not believe that it is possible for any one to arrive at a positive diagnosis. The history may throw some light upon the subject; but as many sarcomas are lighted into discoverable existence by injury, even this is of but little service.

THE DOCTOR'S WIFE—AN IMPORTANT FACTOR IN HIS SUCCESS OR FAILURE.

Much has been said of the trials of the doctor's wife. Complaint is often made because the doctor leaves his wife so much alone; because he does not go with her to parties, to the theater, or pleasure-driving; does not spend many evenings reading to her from some entertaining book; is not always bubbling over with animal spirits after the performance of his daily tasks, etc.

We have observed that he who has such a wife, or one not content to share the life of the busy doctor, is doomed to failure more or less complete. On the other hand, when the doctor's wife takes a pride in her husband's work, enters into his life, is proud of his success and sympathetic with his failures, then the doctor succeeds.

Dr. E. C. Valentine (*Medical Record*) tells the following illustrative of many points in the success of the doctor and his wife. He says: "Once I had occasion to call on a successful practitioner, whose home life, because of its happiness, was the subject of much comment. The doctor was not at home. His wife urged me to wait for the doctor, as she had sent for him a moment before. I explained that I was not a patient but a colleague. 'I am so glad, doctor,' she responded; 'won't you come in quickly, please? I have a man on the operating-table with, I think, his posterior tibial artery cut. I controlled the hemorrhage with an improvised tourniquet, but of course would not attempt to ligate.' I then observed that Mrs. Doctor had stained her elegant dress with blood. Her hat and gloves were lying on the floor of the operating-room. The patient was lying with his injured leg raised on an inverted chair, the trousers and drawers slit, and a tourniquet neatly ap-

plied to control the bleeding. Just then the husband came in. She assisted him at the ligation; pride in her husband and in herself gleamed in her eyes, and when all was done she patted him affectionately on the cheek and said, 'Good-by, darling.' 'But, dearest,' he said, 'you have lost the *matinée* in consequence, and your new dress is ruined.' 'What is a *matinée* or a new dress to seeing a good operation performed by a good surgeon, and that surgeon my husband?'"

Dr. Valentine remarks: "This woman was proud to possess her husband; she sought happiness in being his wife, and did not complain because the world called her the wife of Dr. —. Is it a wonder that such a man succeeds? He leaves home with encouragement from her; he hurries home when tired, exhausted, in doubt, to get more encouragement and stimulus for study and work from her; she is all and everything to him; both are happy, and she consequently does not fly into print to proclaim what a miserable creature she is."

With shadings to suit each individual case, this story is typical of the true wife—the true doctor's wife. Such a wife is a priceless life-partner to the doctor.—*American Lancet*.

Acne.

To cure acne, give one-fiftieth grain of sulphide arsenic, three times a day, and apply first sulphuric ether to the pimples and face, wash well with fine soap and apply topically a saturated solution of boracic acid in alcohol. The cure is expedited by wearing at night a mask made of thin rubber, such as dentists use, and is called rubber dam.

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SATURDAY, NOVEMBER 10, 1894.

EDITORIAL.

THE METRIC SYSTEM.

For a year or more this much-mooted subject has enjoyed a rest, which we propose to disturb by again bringing it to the attention of our readers. At one time and another, probably all the arguments for and against the change to metric units have been presented. Yet the whole literature of the subject may be condensed into the statement that one set of physicians believe that the conceded difficulties of making the change will be more than compensated for by the advantages of the decimal system, while another set, though granting these theoretical advantages, believe that the trouble of learning and the danger of using unfamiliar concepts of quantity are too great to warrant the reform. Such an argument has doubtless been held over every radical change in human customs. The argument may be shortened under a paternal government and lengthened in a country where an atmosphere of liberty strengthens personal opinions and prejudices, but in the long run genuine superiority will be recognized, while the specious success of false reforms

will prove temporary. It is not difficult to prophesy the outcome of the present controversy. With the exception of the British empire, which is always conservative, and of the United States, which is usually radical but always independent, the metric system is in practical every-day use in the entire civilized world, while in nearly all branches of science it is almost universally employed. The first timid footsteps into an unknown region may be retraced; not so the onward march of multitudes.

The latest decisive battle for the supremacy of the metric system in the medical domain was that fought for the possession of the United States Pharmacopœia. In 1880 a foothold was obtained, but it was precarious. In 1890 it was questionable whether this would be permanently lost or whether a decisive victory would be gained. The superiority of a scale of denominate units in accord with the universally employed decimal notation of abstract numbers once more prevailed. But though the victory was won, the majority

of the defeated are still to be "reconstructed." It would be not only discourteous, but unwise and dangerous, to insist on the abandonment of measures familiarized by long use. The middle-aged and elderly members of the profession will, for the most part, adhere to the apothecary's system. The change, however advantageous theoretically, can offer to them no adequate compensation for the trouble involved. It is the comparatively young men who will receive the benefit, those who still build up their prescriptions, ingredient by ingredient, by the tedious process of multiplication of the single dose, not those who have in mind in an instant the completed prescription.

There are certain obvious duties in the matter to which we wish to call attention. The pharmacist, whether he has a store in the heart of a populous city or whether he is located at some country corners, is just as much under obligations to be able to compound a metric prescription as he is to keep in stock an officinal drug. He has no more excuse for being without metric weights and a cubic-centimeter graduate than without laudanum and bismuth. Furthermore, it is the duty of every official pharmaceutical and medical society, without reference to individual opinions, to exercise whatever power or influence it may have to compel adequate provision for compounding prescriptions by either the customary or the official method.

We have for several years made personal inquiry as to the equipment of any drug store to which our prescriptions might probably be taken, and, so far as possible, have not allowed them to be compounded in stores which were improperly equipped either in measures or drugs or at which a conspicuously irregular trade was carried on. Doubtless there is truth in the argument which some physicians have advanced that druggists thus treated will not send patients to us, but our personal relations with reputable pharmacists have

been uniformly pleasant, and we doubt whether the man who caters too much to others is the permanent gainer thereby.

Students have often said: "I believe in the metric system, and when I get out of college I am going to learn to use it, but here I am taught in the old way, and I must know that anyhow." The representatives of the medical profession have formally adopted the metric system, not for the benefit of old practitioners, but for the sake of those who may enjoy the advantages of the new without the trouble of unlearning the old. The family physician may write his prescriptions as he pleases, and no one is the wiser except the druggist who compounds them; but the man who accepts the privileges of a professor should realize his responsibilities also. His students should have the benefit of everything that is new and good. Directly or indirectly they pay their teachers for being abreast of the times, and they are defrauded to just the extent that the latter allow the inertia of habit to carry them by their duties to the present and future.

Bits of Natural History.

In old age the height of man diminishes.

The skin is the only part of the human body that is not hardened by age.

The tail of a beaver is a regular trowel and is used as such.

Carnivorous animals seldom produce more than two young at a birth.

The flesh of the boa constrictor is eaten by the aborigines of Brazil.

The bones of very aged persons are said to have a greater proportion of lime than those of young people.

The lowest order of animal life is found in the microscopic jelly-fish. It is simply a minute drop of gelatinous matter.

The Call of Duty.

Friend—Your husband seems ill.

The Minister's Wife—He is overworked but he will take no rest. Three nights last week he insisted on going to see those hateful living pictures in order to more effectively denounce them from the pulpit.—*Puck*.

THE PREVENTION OF DIPHTHERIA.

The following is furnished for publication by the New York Health Department:

NEW YORK, Sept. 28, 1894.

CHAS. F. ROBERTS, M.D., Sanitary Superintendent—

Sir: We desire to direct the attention of the Board of Health to the necessity for the adoption of some more adequate means to prevent the extension of contagious diseases in tenement houses and apartment houses, and particularly for the enforcement of isolation of persons sick with these diseases. The methods which have been long employed in the Health Department, *i.e.*, frequent visitation and instruction by Department Inspectors, have been found to be only partially effective. It has been the custom for years, in cases of contagious diseases, for the Inspectors of the Department to visit the families of the sick persons, inform them as to measures of disinfection and methods of isolation, and at the same time to notify other families in the house of the existence of a case of contagious disease in a given apartment. This method of giving publicity to the case and of warning other occupants of the house is ineffective in the accomplishment of the desired end; *i.e.*, the complete isolation of the patient and the prevention of further infection. Notifying all the inmates of a large tenement is a very difficult matter, and, if notified, experience has shown that they soon forget the existence of illness in the house. Repeated inquiries have demonstrated the fact that frequently many of the inmates of the house where there is a case of contagious disease do not know of the existence of any sickness.

Further than this, this method fails entirely to protect strangers or visitors who may go to the house or apartment. Ladies in search of servants have been repeatedly found in houses or in apartments where cases of contagious disease were present, and servants who have been living with families where there are cases of contagious disease, on obtaining situations frequently go to their employer's house carrying infection with them; or, when relieved from duty for an afternoon or evening, visit where there are cases of contagious disease and not infrequently carry infection back

to the houses in which they are employed. Very commonly, washing or various kinds of sewing is secretly done by other members of the family in apartments where such cases are ill, and the garments thus infected on the premises are later returned to the owners. In small shops, business is sometimes carried on, and in one of several instances recently, a number of cases of diphtheria were directly traced to an infected candy store.

Notifying inmates of the house is ineffectual, further, because it has been found that, as a rule, intercourse of families in tenement houses is not with others in the same house, but with families who live in other houses, and the latter are entirely unprotected by the methods at present followed.

It has seemed to us, after careful consideration of this subject, that the desired object would be best obtained by the placarding of apartments in tenement houses where cases of contagious disease exist, and we therefore have the honor to recommend that hereafter the Chief Inspector of Contagious Diseases be authorized, in his discretion, to placard apartments in tenement houses where there are cases of contagious disease. The following considerations may render more apparent the necessity for this action:

1. Under the present conditions it is impossible to prevent strangers and visitors from entering apartments where there are cases of contagious disease, and they or their clothing thus frequently become infected, and either they contract the disease themselves or they transmit it to others. These strangers or visitors are usually not aware of the existence of disease in the house or apartment, and unwittingly expose themselves and act as media for the dissemination of the disease. If apartments were placarded, this means of dissemination would be prevented.

2. In diphtheria, as has been repeatedly and abundantly shown by the investigations of this Department, patients are often apparently well long before they are free from the infectious agents, and in spite of repeated warning from Department Inspectors these patients, especially when children, mingle with other children and thus transmit the disease to

them. This is one of the most common and important means for the dissemination of diphtheria, and it is of no less importance in scarlet fever and measles, as in the latter diseases desquamation frequently continues many days after the patient has apparently quite recovered.

3. There are at present no means by which other inmates in tenement houses can know when convalescent cases of contagious disease have ceased to be dangerous. They can only be governed by appearances, which, as we have seen, are deceptive. If apartments where cases of contagious disease existed were placarded, isolation would be enforced by the other occupants of the house until the Department Inspectors allowed the placards to be removed.

4. The moral influence of such placards, both upon the inmates of the apartments, the inmates of the house and strangers or visitors to the house, would be of as great service in enforcing isolation and preventing extension of disease as the visits and instruction of our inspectors. It has been found impossible, even where daily visits were made by medical inspectors, assisted by the Sanitary Police, to enforce the isolation of children convalescing from diphtheria and scarlet fever after the serious symptoms have disappeared. It is undesirable at such times, unless absolutely required, to remove such patients to the hospital, and yet in the eruptive fevers this is the period of the disease when there is greatest danger of transmission to others.

During the last year we have had a serious epidemic of diphtheria to deal with. The number of cases reported weekly during the last months, however, has steadily decreased. The schools have just now opened, and it seems to us that the most strenuous efforts should be made to prevent a new outbreak of the disease or its reintroduction to the schools. This measure would be of undoubted service in accomplishing the desired object.

We would recommend, however, that placards should be nailed to the outside doors of the apartments in which cases of contagious disease are present, when in the judgment of the Chief Inspector of Contagious Diseases this course seems to be desirable, and that the placards should bear the following inscription, differing as to the name of disease in question and as to color. The color for diphtheria should

be white; for scarlet fever, red; for measles, blue.

"DIPHTHERIA.

"All persons not occupants of this apartment are notified of the presence of diphtheria in it, and are warned to avoid entering it until this notice is removed. The persons sick with diphtheria must not leave as long as this notice remains here.

"The removal or defacement of this notice is forbidden.

"By order of the Board of Health.

"———, President.

"———, Secretary."

For some months in certain classes of tuberculosis the system of placarding apartments has been authorized and employed by the Health Department, and has proven very satisfactory in the attainment of the object desired. The only objection apparently to be urged against this measure is that the inmates of the apartment may object to the publicity thus entailed. This, however, is exactly the object which the measure is justly and properly designed to subserve, and is, in our opinion, the strongest argument in favor of its adoption. Respectfully submitted,

(Signed) HERMANN M. BIGGS,
Pathologist and Director of the Bacteriological Laboratory.

A. H. DOTY,
Chief Inspector of Contagious Diseases.

The above report was approved by the Board of Health Department of the City of New York at a meeting held on September 28, 1894.

(Signed) EMMONS CLARK,
Secretary.

Alcohol.

The lamp wick does not burn so long as there is oil on it. As the oxygen which reaches the wick is not sufficient to burn both the oil and the wick, the oil, being most inflammable, is burned, leaving the wick merely charred. So if some highly oxidizable substance, as alcoholic drink, is taken into the system, it will be oxidized first, leaving the proper food elements of the body only "charred," or incompletely oxidized.

In the treatment of alcoholic habits, don't forget the necessity for excessive nutrition of some kind easily appropriated.

ABSTRACTS.

TUBERCULOUS CATTLE.

A dispatch from Washington is to the effect that as soon as the appropriation of \$100,000 in the agricultural bill becomes available, the Bureau of Animal Industry of the Agricultural Department will begin an investigation of the prevalence of tuberculosis among cattle. The investigation will be commenced among herds from which Washington itself gets its supply of milk. Various herds in that section of the country have been inspected and tested from time to time with startling results. A herd ten days ago on a farm in the District was found to have 80 per cent. of its animals infected; and a few days before that no fewer than 90 animals in a herd numbering 125 near Richmond, Va., were discovered to be diseased. These are extreme and unusual cases, it is true; but occurring synchronously within a narrow radius, they were enough to rouse the Government to a sense of the danger to which the country is exposed from this source. An experiment performed by one of the scientists attached to the animal industry laboratory about the same time tended in the same direction of alarm. Ascertaining from test experiments which he had been making with the milk supply of the capital that it was tainted with tubercle, though perhaps not tainted sufficiently to be very dangerous to human health, he inoculated a guinea-pig with the milk; and, sure enough, after a few days, when the tubercle bacilli contained in the milk had had time to plant themselves and develop in his system, the rodent exhibited unmistakable tuberculosis. Concurrent circumstances like these, forced on the attention of the Government, produced the belief that it was about time a general investigation of diseased cattle should be made, if the danger to human health so portended would be avoided.

The way in which cattle are diagnosed most easily and most surely for tuberculosis is by the inoculation of them with an infinitesimal quantity of a preparation of which we heard much more a few years ago than we hear now—Koch's tuberculin. Tuberculin is a pretty expensive drug, costing \$8 for about a teaspoonful. The

Government prepares considerable quantities of it and distributes it free among State boards of health and live-stock commissioners. Inoculated with tuberculin, cattle straightway declare whether they are infected with tubercle or not, by the reaction that follows or fails to follow the inoculation. Now tuberculin has been furnished to twenty-three of the forty-four States of the Union, and the tests which have been returned to the Government from these States, although they have not nearly all been returned yet, show conclusively that the disease is spread among cattle throughout almost the entire Union. In fact, the probabilities are that it will be found that 5 per cent. of all the cattle in the United States are suffering more or less with tuberculosis!

That is the alarming state of things of which the Government will have to take account, and for which it will some way or other have to devise a remedy. It cost \$1,500,000 to eradicate contagious pleuropneumonia from United States herds, and the amount of contagious pleuropneumonia was not a tithe of the amount of tuberculosis which at present exists. So many milch kine alone are infected with it, says Dr. Salmon, of the Bureau of Animal Industry, that if they be all killed "fresh milk will cost as much as champagne." It would be well for us not to forget that of all our cattle, and especially of all our milk-givers, at least 5 in every 100 are infected with tuberculosis; which disease, appearing most commonly as consumption in the human subject, is easily communicable both through meat and through milk. Common prudence would suggest the necessity, therefore, of boiling all milk before it is administered to anybody.—*Public Opinion.*

BED-SORES.—Bed-sores may often be aborted if, as soon as the skin becomes red, a solution of the nitrate of silver, of the strength of twenty grains to the ounce, is applied locally to the parts; but this will not be effective in cases of paralysis.

SOCIETY REPORTS.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of October 10, 1894.

Dr. G. E. Shoemaker read a paper entitled

DESTRUCTIVE LESIONS IN ACUTE TUBAL INFLAMMATION.

(See page 645.)

DISCUSSION.

DR. M. PRICE: I have been much pleased with the report and with the success of both operations. I think that I cannot exactly agree with the doctor in considering a case of eighteen days' duration as altogether acute. Many of these cases go on to a fatal termination before going to such a length of time. I have seen cases of gonorrhœal salpingitis where the gonorrhœa had existed only a few weeks, and the ovarian and tubal trouble only a few days, when the tube was removed with pus pouring from its end. The gonococcus would probably have been found in great numbers if it had been looked for. In this case there was a general peritonitis with inflammatory lymph covering the intestines in twenty-four to thirty-six hours. I remember three cases of forcible dilatation where general peritonitis with pus pouring from the tubes at time of operation existed eight days after dilatation. I believe that many of these cases which ended fatally are considered to be cases of appendicitis. I have also found many of these cases of pelvic trouble complicated with appendicitis. A few months ago I operated on a woman who had for years suffered with so-called appendix trouble. The principal evidence in favor of this was the position of the woman, who bent over to the crippled side with her hand in that position. At the operation the tube was found fused to the ovary. It is often impossible to say in these cases whether the primary disease was in the appendix or in the tube. In these cases recovery is rapid because the patient has been prepared for a certain amount of suffering, and the peritoneum has been educated, as it were, to bear almost anything.

The only thing that I can criticise, and I can do that conscientiously, is the use of gauze drainage. If glass drainage alone had been used it could have been removed at the end of thirty-six hours. There is always sloughing and dirt following gauze drainage. While I use it in abscesses where the peritoneum has not been opened, I insist on its removal at the end of twenty-four hours, and its reapplication. Where gauze packing is used within the peritoneum the membrane is exposed to injury, and the viscera are wounded in its removal, as it adheres to everything, and its removal requires considerable force, unless it is left for a long time. With gauze drainage you run fifty per cent. more risk of death than if glass drainage alone has been used.

Dr. Senn has recently asserted that glass drainage causes fecal fistulæ. I can select the cases that are going to have a fistula. At time of operation in cases of abscess of the ovary or tube allowed to run on for a long time, with several attacks of pelvic inflammatory trouble, you will often find a necrotic bowel requiring the use of the Murphy button for resection. If glass drainage is used with care and the tube properly placed, the chance of avoiding a fecal fistula is very good, and the patient is safe. In a case operated on during the past year I was sure that there would be an injury to the bowel, for the abscess on the left side had several times discharged through the bowel, and I knew that there was a sinus or such adhesions as would necessitate wounding the rectum. In this case a drainage-tube was placed in the left cul-de-sac, and within forty-eight hours feces poured out by the tablespoonful. That case went on as nicely as could be, and recovered. I could point out four or five cases in the past year where before the operation was completed we had every reason to expect fecal fistulæ, and in every case recovery occurred without difficulty.

Where feces is discharged through the drainage-tube a little different treatment is required. The tube should be left

until you are sure that the drainage tract has been mapped off from the general peritoneal cavity. The treatment of this drainage tract is a matter for consideration. It should not be touched with a syringe, or any attempt made to clean it below the skin. If you do you will have complications and injury to surrounding viscera, giving a fistula which is incurable. All these cases should get well, and the charge that the drainage-tube is responsible for fecal fistulae, I think, is a great mistake. I have seen thirty fecal fistulae, and every one has healed under the treatment mentioned.

DR. G. G. DAVIS: My observation does not correspond with that of Dr. Price, that fecal fistulae always heal. I have seen several fecal fistulae the result of abdominal operations that have not gotten well. I cannot see why the simple cleansing of a fecal fistula should retard its healing, and I do not believe that it does. Dr. Price's objection to the use of the syringe may be a good one if the nozzle of the syringe is long and it is thrust in deeply and sufficient manipulation made to materially disturb the parts; but that would be followed by hemorrhage, and I think that no one in cleansing the parts would use such violence. If all the cases that Dr. Price has seen recover, his sources of information must be more limited than mine have been.

DR. PRICE: Dr. Davis states that he has seen cases that did not get well, and he admits that the syringe was used, and this was a good reason for the failure to close. Every fistula which is syringed does badly. The kind of fistulae that do not get well are those due to tuberculosis. There is also another class that do not close, and that is those where there are sloughs of the bowel from injury, and the bowel is in close contact with the skin, and there is no intervening tissue which can bridge over the opening. These will not heal without operation, but deep fistulae, not tubercular and where the lumen of the bowel is sufficiently large, always recover.

DR. JAMES M. BROWN: I was much interested in Dr. Shoemaker's allusion to the relation between appendicitis and ovarian and tubal trouble. Two cases of appendicitis, among several that I have had in the past year, I believe to be the result of primary pelvic trouble, probably

ovarian trouble. In both of these cases operation proved the presence of appendicitis. The point I wish to make is that in these cases the probable cause was primarily some pelvic inflammatory trouble. A third case still under observation had recurrent attacks of appendicitis with each menstrual epoch for a number of months. Then the attacks became more frequent and occurred between the menstrual periods. For the past two months there have been no attacks. I grant that it requires some care to distinguish a condition of this kind occurring in connection with the menstrual epoch, but I think that the diagnosis has been positively made, and if there is recurrence of the attacks operation for removal of the appendix will be done.

DR. H. A. SLOCUM: I would ask Dr. Shoemaker if he has determined the cause of the rapid change in the case reported; whether it was due to the condition of the patient or to some particularly malignant germ. The history of the first case emphasizes the necessity of taking special care in the treatment of cases of miscarriage, and, if possible, to thoroughly cleanse the uterus and thus prevent troubles which may follow long afterward.

DR. SHOEMAKER: In reply to Dr. Slocum I would say that the rapid growth of the abscess is not without its analogy in other parts of the body where there is no dense fascia, and where the tissues involved are only connective, muscular or glandular. We have the rapid formation of large abscesses, the material in which comes from the degeneration of the cell infiltration after inflammation.

The question of the use of gauze drainage in tubal and ovarian inflammatory troubles does not often come up in operations, as total removal and careful toilet usually suffice. In this case the adhesions looked so black that I hesitated to trust glass drainage alone, and the result made me satisfied with what was done. I do not recall that I have had to use gauze drainage in a tubal or ovarian pus case before, and I hope never to do it again; but we all know by experience its value in some forms of appendicitis. If a handkerchief of gauze is used, with a ligature attached to its center inside, and this is stuffed with strips, the removal is facilitated.

Dr. James K. Young gave an
EXHIBITION OF CASES ILLUSTRATING THE
OPERATIVE TREATMENT OF ILIAC
(SPINAL) ABSCESES.

(See page 648.)

DISCUSSION.

DR. WILLIAM J. TAYLOR: I wish to thank Dr. Young for bringing these cases for us to see. I have used this method of treatment several times in the last year with good results. There is one point to which I desire to call attention, and that is that instead of the curette I have used with advantage pieces of gauze on long forceps, and swabbed out the whole interior of the abscess. In that way you remove a large amount of granulation tissue containing tubercle bacilli. With this method I use thorough flushing with plain boiled water, the water being allowed to flow while the gauze-curette is being used.

With regard to the length of time that the drainage-tube is allowed to remain, my experience is that the sooner you get rid of the drainage-tube the better. With the method to which I have alluded I find that within a week, sometimes in a few days, I can remove entirely the drainage-tube, and although there is some discharge, the amount is small and the recovery is rapid, considering the extent of the disease.

DR. G. G. DAVIS: I think that the question of operation depends upon the peculiarities of the case. I should be inclined to leave the abscess alone where I thought it was not enlarging or that it would ultimately be absorbed. I think that it is hopeless to attempt to cure them by any direct action upon the diseased part. As Dr. Young has said, the attempts in the way of curetting have been failures, and any operative procedure that attempts to eradicate the bone disease will likely be a failure. If the abscess is small and does not show a tendency to increase, I believe that it would be better to let it alone. I remember two cases in which, after opening, the discharge continued profuse, and death occurred. I do not believe that the discharge is kept up by the condition of the abscess cavity, but by the tuberculous process in the bones themselves. While I should not hesitate to operate in a rapidly growing abscess in an individual more or less healthy, and where the promise of repair is moderately good, yet in such a case as I now have under observation, an adult,

with probably some tubercular changes in the lung, who now has a fistula in ano, a tuberculous testis, and an iliac abscess on the right side, I have no doubt that if this abscess were opened the suppuration would be prolonged and the retrograde changes would be hastened. If, as I have said, the individual were moderately healthy and capable of reacting, I should do as Dr. Young has done.

DR. JOHN B. ROBERTS: I am interested in two points of the discussion. One is the expression of the opinion that a good many of these cold abscesses, or tubercular abscesses, should probably be allowed to go without opening because of the probability of absorption taking place. My own feeling has been that so few are absorbed that as soon as I see one I have been inclined to incise it, as the risk under antiseptic treatment is so slight. I should like to hear this point developed a little more.

The statement as to the rapidity with which these tubercular abscesses heal after opening, with only a small sinus and a moderate amount of discharge remaining, is interesting to me, because that has not been my experience, probably because I have not treated them so satisfactorily. I should like to hear this brought out more thoroughly.

The more radical operations of curetting and cutting down and trying to get rid of the carious bone, which have been vigorously advocated, does not seem to meet with the approval of the members who have spoken. That is a comfort to me, as it has been my practice to refuse such operations.

DR. M. PRICE: I have no experience in spinal surgery, but the observation of these two cases would lead me to send such cases to the man who would treat them in this way. Dr. Davis' criticism as to operation is in a measure outside of the scope of this discussion. It is a question whether or not you can benefit a man with tubercular deposits in various parts of his body. Pus is a foreign body, and it is doing damage no matter what part of the economy it is in, and should be removed. The fact that the patient is weak and broken down is no argument against operation. If there are any cases that would suggest waiting it would be the strong and vigorous, those who can combat disease and resist the poisonous effects of absorption of pus. My feeling is that we

should always remove pus, and drain if we can. I see no reason why the treatment laid down by Dr. Young is not the proper treatment in spinal diseases where the result will be fatal if the large majority of cases are left to nature. Even if a large proportion died it would be no argument against operation. I believe that the two cases shown are one of the best arguments in favor of this method of treatment. Both of the children show that they are in good condition. I am surprised that Dr. Davis should recommend the leaving of a large abscess, poisoning the patient under the possible chance of recovery. The pus is dangerous and should be removed. It is so in the pelvis, and the spine is no exception.

DR. DAVIS: I am not aware that I said anything derogatory to Dr. Young's views or his method of treatment. It is simply a choice of cases. I believe that in Dr. Young's cases the choice was properly made. Against the adoption of incision in all cases of abscess I did speak. Dr. Price has asked the reason why we should leave pus. The pus of cold abscess is different from that of acute abscess. I cannot recall any case of acute abscess where I should hesitate to leave pus out, and when it comes to abscess in which the active organisms which were largely instrumental in the production of that abscess are dead, then you have simply a foreign body, a foreign body which is liquid to a great extent, and which at times does become absorbed, and one should consider well before opening it. In deciding whether or not to open these abscesses, I laid stress upon the condition of the patient. Dr. Roberts, with his usual modesty, suggests that some lack in his operative procedures may account for some of the results that he has had, but I am sure that all of us know the care with which he attends to his cases, and that this is a very insufficient explanation to account for their continued suppuration. The rest of us can take it for granted that if such results occur in the hands of a surgeon as careful as Dr. Roberts, they are as liable to occur in our hands. There are certain cases of abscess in connection with bone in which, if the abscess is opened, suppuration is thereafter continuous and more or less profuse, and in a markedly tuberculous patient will not infrequently lead to death.

I have no doubt at all that absorption

of pus does take place, but, as Dr. Young pointed out, where the abscess is large and there is danger of rupture into adjacent cavities, or where there is a rapid increase in size, the indications for relief are clear. I should not expect absorption in such cases, nor should I hesitate to operate. Where the abscess shows no tendency to increase, particularly in a weak strumous individual, I should certainly adopt a conservative policy.

THE PRESIDENT, DR. DE FOREST WIL-LARD: I do not believe in allowing pus to remain in the body. As soon as we are certain that pus exists in any cavity we should adopt measures for its removal. In regard to the old theory that hectic fever resulted from these incisions—that was simply septic fever. A temperature sheet, such as has been shown, where after the operation the temperature on only one occasion reached 100°, shows that "hectic" fever is preventable. Moreover, in many cases where before operation the temperature has been from 103° to 104°, on the day following incision it will be found below 100°. This temperature of 104° burns the life out of these cases, and these are the ones that should be operated on to get rid of the poison. Tuberculous pus is dangerous if allowed to remain; it is a focus of disease, and from it new foci in other parts of the body may be developed. Therefore I believe in incision under thorough aseptic and antiseptic precautions, with thorough drainage and thorough curetting where it is possible. There is one caution to be observed when making through-and-through drainage—care should be exercised in the use of the curette on the peritoneal side of the abscess. The curette may cause little perforations, and then if, as is sometimes done, peroxide of hydrogen is injected, small quantities of pus may be forced through these openings.

These wounds can be kept aseptic. I know of cases that have been discharging for months, yet the wound has been kept absolutely aseptic, but if a fresh suppurative process is engrafted on these sinuses there will be a serious drain, and probably great danger to the patient. I am thoroughly satisfied at the operative treatment, not that it cures the original disease, but it relieves the drain on the patient, diminishes the fever, and, if accompanied by proper fixation and by hygienic measures,

permits the patient to become hearty and strong, in place of the wretched, worn, exhausted individual which we so often see as the result of poisoning from the absorption of tubercular pus.

Erosion of the vertebræ is a dangerous and also a difficult operation, and in the end the surgeon is never certain that he has eradicated the disease. That is the real objection to erosion. If we could be certain that we could remove all the disease, it would be worth all the time, trouble and risk which are required to reach the source of trouble. I do not believe that there is any operator so adept as to be able to work entirely around in front of the body of the dorsal vertebræ. I certainly have never succeeded except in cases where there has been a large deposit of tuberculous matter and where the body of the vertebræ has been broken down. In healthy dogs I have tried over and over after removing the head of a rib, but never succeeded without getting into the pleural cavity. In one case where there was a large tubercular mass in front of the vertebræ, pushing the pleura forward, I was able to pass a loop of tubing entirely around.

DR. YOUNG: The conservative method is a well-accepted form of treatment. There are on record two well-authenticated cases in which recovery followed where there were large abscesses in this region and the patients refused operation. They are those of Dr. Taylor, of New York, and the case recorded by Bradford and Lovett. Two years later the abscesses had disappeared. I have now under observation a case in which there was a large abscess which has now disappeared.

In speaking of rapid cures in these cases, I was speaking as a surgeon in chronic cases. By "rapid cure" a chronic surgeon would mean months. These cases discharge for six or eight months, perhaps a year longer. I am inclined to think that these cases represent a special group of cases—that they are iliac abscesses similar to psoas abscesses, and not to be distinguished from them except that very early we notice psoas irritation in these cases. The first symptom may be irritation of the psoas muscle, as demonstrated by the inability to extend the thigh beyond the normal line. Then, upon palpation, possibly a deep abscess may be discovered within a few days.

Then the abscess will become larger, and this is the time for operation. In all these cases apparatus was applied early and continued. As soon as possible after operation a plaster jacket was applied, and afterward a plain brace or support of some kind.

EVIL RESULT OF OSTEOTOMY.

THE PRESIDENT, DR. DE FOREST WILLARD: I wish to show you a case which came under my notice a few days ago, and which illustrates one of the bad results that may follow osteotomy. I believe most enthusiastically in osteotomy for the correction of deformities, and in ninety-nine cases out of one hundred one can obtain capital results without pus. This case was operated on by another surgeon, and was done some years ago. You will observe that the limb is greatly atrophied and deformed. There is scarcely any muscular tissue left. The cicatrix is also exceedingly sensitive. I fear that ultimately amputation will be required. Although I am a strong advocate of the operation of osteotomy, I think it well to know the other side of the question. I presume that in this case septic infection with sloughing occurred. In the last three years I think that I have not seen a single drop of pus after an operation of this character. Every one has healed as a similar fracture of the leg.

DISCUSSION.

DR. WILLIAM J. TAYLOR: I have never seen such a result as has been shown following osteotomy, nor have I seen any pus. I have seen, however, in one case of simple fracture with no external wound, the patient die of pyæmia, the direct result of the fracture, and the post mortem showed extensive septic inflammation.

Dr. Willard discussed

ILIAC ABSCESSES, NON-SPINAL IN ORIGIN.

(See page 650.)

DISCUSSION.

DR. M. PRICE: Some time ago, while in Muncy, I fell in conversation with a man who in early life had hip disease. A few years ago a tumor appeared on the previously diseased side, and he came to Philadelphia and was examined by a dis-

tinguished surgeon, who told him that he had tuberculosis, and that the result would be fatal and nothing could be done. He consulted others, but no one would operate. He returned to his home and spent three or four months in bed. He insisted that the mass should be opened, but none of the local physicians would do it. Finally he took a razor and went in above Poupart's ligament, and at once a large quantity of pus escaped. In six or eight weeks he recovered and has since remained well. I have no doubt that that was an abscess of the character of which Dr. Willard speaks. We should never turn away any of these cases without a thorough investigation.

The other day a case came to the hospital. He was an epileptic, and fifteen weeks ago had fallen from a cherry-tree. A week later a tumor developed in the splenic region. On examination I thought that he had a splenic abscess. I made a small incision and two or three quarts of peritoneal fluid escaped. The peritoneum had evidently been injured, and a localized peritoneal dropsy had been the result.

I was recently asked by Dr. Keller to assist him in opening an abscess of the kidney. We carefully cut down on the abscess and evacuated two or three quarts of pus. The finger could be passed over the crest of the ilium toward the pelvis. The boy made a good recovery. This was evidently another case due to injury.

DR. WILLIAM J. TAYLOR: I have only one case bearing on this subject. An Italian, while lifting a heavy weight, felt something give way in the right side. In two weeks a tumor appeared midway between the anterior superior spine and the umbilicus. This gradually increased in size. I saw him in consultation, and came to the conclusion that it was some form of abscess. I made an incision and found a very extensive abscess extending around toward the right kidney, but outside of the peritoneum, evidently a perinephritic abscess. With drainage he recovered and the wound healed nicely, and he had no trouble for eighteen months. Then the whole thing recurred, and six weeks ago I again operated on an abscess in the same position. In three weeks it healed absolutely, and he is again well.

DR. H. A. SLOCUM: I recall two cases presenting symptoms similar to those of iliac abscess. One was in an English-

woman with a large scar in the iliac region, the result of an operation in England four or five years ago. I assisted in the second operation for inflammation in the right side, and found remains of the broad ligament in the scar on the left, showing that the abscess had been connected with the pelvis. In another case, which had been under observation for eight years and in which I advised operation, the symptoms presented before operation might have been mistaken for those of iliac abscess. The tubes, ovary and omentum formed a large mass which raised the abdominal wall three-fourths of an inch in the left iliac region. The whole mass was found agglutinated and was removed. She is now perfectly well, three years after operation.

DR. JAMES M. BROWN: I can recall two cases from traumatism. The first case was that of a man who while supporting a heavy weight felt something give way in the left iliac region, incapacitating him for work for a few days. He afterward was compelled to give up work, and in a few months an abscess formed and opened above the crest of the ilium posteriorly. This man refused operation and died with albuminuria. In the second case the man fell, striking the left lumbar region. Here the same course of events followed, with the exception that the opening occurred anteriorly and the man recovered.

DR. WILLARD: My object in calling attention to this group of cases was simply to emphasize the fact that abscesses in this fossa may occur independently of spinal, hip, tubal, or appendiceal disease. These cases show that abscess here is like other abscesses. I believe that pus in the body is harmful; if we can evacuate it safely we should do so, and as soon as it is probable that pus is present we should make an incision and explore. This prevents the abscess from extending and burrowing, and avoids the danger from high temperatures.

Dr. A. J. Downes exhibited a specimen of a

PULMONARY CALCULUS.

Mrs. R., aged eighty-nine, while eating breakfast on Saturday morning, September 29th, in her usual health, had a severe coughing spell. During the following

few days she had several similar spells. On Thursday, about 4 P.M., I was present during the worst and last one. While listening to the chest during this attack I found no air entering the left lung. The attack ended with a copious discharge of muco-purulent matter, slightly blood-tinged, which striking the basin gave a sound. It contained the calculus I present. Quite too large, it would seem to be cast up from the left bronchus, where it evidently had been. The patient has hardly coughed since, and has been entirely free from a bronchial irritation and

expectoration she suffered from for about fifteen years.

DR. FRANCIS RUDEROW: I recall the case of a negro, forty-two years of age, admitted to the Episcopal Hospital with nephritis. He also had attacks of spasmodic asthma, and insisted that when the attacks came he felt a blocking in the region of the right bronchus. He suddenly died, and on autopsy we found a curious calcareous deposit in the left bronchus an inch and a quarter in length. This blocked the bronchus entirely and was undoubtedly the cause of death.

FOODS OF THE FUTURE.

"What will the man of the future eat?" The answer to this question has been undertaken, not by an imaginative writer, but by one of the greatest of living men of science, Professor Berthelot, of Paris; and it may be said at once that but for his scientific eminence and the undeniable facts upon which he bases his forecast, it would pass the limits of human belief. The epicure of the future is to dine upon artificial meat, artificial flour and artificial vegetables; drink artificial wines and liquors, and round off his repast with an artificial tobacco beside which the natural tobacco of the present will seem very poor.

Wheat-fields and corn-fields are to disappear from the face of the earth, because flour and meal will no longer be grown, but made. Herds of cattle, flocks of sheep and droves of swine will cease to be bred, because beef and mutton and pork will be manufactured direct from their elements. Fruit and flowers will doubtless continue to be grown as cheap decorative luxuries, but no longer as necessities of food or ornament. There will be in the great air trains of the future no grain or cattle or coal cars, because the fundamental food elements will exist everywhere and require no transportation. Coal will no longer be dug, except perhaps with the object of transforming it into bread or meat. The engines of the great food factories will be driven, not by artificial combustion, but by the underlying heat of the globe. In order to clearly conceive these impending

changes, it must be remembered that milk, eggs, flour, meat, and, in fact, all edibles, consist almost entirely (the percentage of other elements is very small) of carbon, hydrogen, oxygen and nitrogen. Oxygen and hydrogen are the two gases which, when combined, form water. Oxygen and nitrogen mixed are the air we breathe. Carbon forms the charcoal of wood, is the main constituent of coal, and as carbonic-acid gas in the air is the chief food of the vegetable world, these four elements, universally existing, are destined to furnish all the food now grown by nature, through the rapid and steady advance of synthetic chemistry.

Synthetic chemistry is the special science which takes the elements of a given compound and induces them to combine and form that compound. It is the reverse of analytic chemistry, which takes a given compound and dissociates and isolates its elements. Analytic chemistry would separate water into oxygen and hydrogen, and synthetic chemistry would take oxygen and hydrogen, mix them, put a match to the mixture and thus form water. For many years past synthetic chemistry has had an eager eye upon food-making. It has already progressed so far that several great agricultural industries have been destroyed by its advancement, compounds which were once obtained by plant growth in the fields being now entirely furnished by chemical laboratories and direct manufacture.—*Public Opinion.*

PERISCOPE.

IN CHARGE OF WM. E. PARKE, A.M., M.D.

MEDICINE.

Cold Water as an Antipyretic.

Dr. Fisher has arrived at the following conclusions:

1. That cold water is the best antipyretic used to-day.
2. That it is easily obtainable, and is therefore adapted to all classes of cases, both rich and poor.
3. The mode of application is so simple that it adapts itself to the hospital, and equally as well to private practice, and can be applied without any distinct training.
4. Cautiously given it stimulates.
5. Carelessly used and longer than required, it depresses, and will produce subnormal temperature.
6. That rectal temperature should be taken, and the bath at once discontinued when temperature falls to 101°, as it will then continue to fall.
7. That a stimulant administered before the bath may be necessary, and should be given where there is a feeble heart.
8. That the temperature indicates when to commence, and when, also, to discontinue the hydropathic treatment.
9. Unnecessary blanketing after the bath is injurious, and will produce copious perspiration, which I believe weakens the patient.
10. The temperature of the room should always be between 68° and 72°.—*Post-Graduate*.

Poisoning by Guaiacol.

Prof. Oscar Wyss (*Deutsche Medicinische Wochenschrift*) cites the first fatal case of guaiacol poisoning and directs attention to the toxic symptoms as follows:

A girl nine years of age, who had been accidentally given 5 c.c. (75 drops) of guaiacol. In a short time she became unconscious; the conjunctivæ became injected, the corneal reflexes diminished and the pupils no longer reacted to light; there were frequent attempts at vomiting and the saliva flowed from the mouth in large quantities. The pulse became rapid, the sensibility of the skin much diminished. Finally the patient began to vomit; the physician detected the odor of guaiacol. The stomach was washed out, but she did not rally. The cyanosis gradually diminished, and instead of it a deadly pallor was observed; the respiration became frequent. Three and a half hours after the guaiacol had been swallowed the patient passed 100 c.c. of brownish-red urine.

The spleen and liver soon enlarged, and the temperature fell to 35.5° C. (96° F.) and small hemorrhages were observed upon the skin of the arms and legs. The urine contained albumen, blood and casts, and Ehrlich's carbohc acid test was positive.

Jaundice soon appeared, the stupor increased and the patient died on the third day.

The autopsy revealed an acute gastritis and enteritis, parenchymatous degeneration of the liver, acute hemorrhagic nephritis, parenchymatous degeneration of the heart muscle, and ecchymoses in the pleura, peritoneum, endocardium and pericardium. The spleen was much enlarged. Kobert in his text-book on "Intoxicationen" points out that after 1 gram (15 drops) doses of guaiacol slight appearances of poisoning may supervene. These are characterized by a burning feeling in the stomach, nausea, etc. In one case in which 15 grams (3½ drachms) were accidentally taken by a patient in the Dorpat Clinic, the stomach was immediately washed out and the patient was rescued. However, unconsciousness set in, the pupils became contracted, the breathing irregular and the intensely dark appearance of the urine was very noticeable.—*Canada Lancet*.

Advice as to Stimulants.

In a very interesting work by Dr. George Herschell, of London, called "Health Troubles of City Life," the writer says: "Stimulants never increase the natural capacity of the brain. They can only abstract for the purpose of work in hand some of the energies which are sorely needed to repair and restore a brain which has already been taxed to the furthest limit which is consistent with health. To remove the sense of fatigue caused by overwork by the consumption of alcohol is to close one's ears to the voice of nature. The weariness of the brain is a protest against further exertion until recuperation has been obtained by rest; and if the weary feeling is deadened or destroyed by adventitious means, nature will exact her penalty. When the overworked man of business, having been on his legs all day and feeling fit to drop, with a sensation of 'all-goneness' about the region of the stomach, rouses himself with whatever he is in the habit of taking, be it whisky, champagne, or even tea or coffee, he does not add one atom of force to his stock of energy, although he fancies he does, but having put to sleep his sense of weariness, simply appropriates some of his reserve for the present necessity. He has accepted a bill at a short date to which a ruinous rate of interest is attached, and his resources will not allow him to make many repetitions of the experiment. His account at the bank of life will soon be overdrawn. Alcohol cannot add one iota to his reserve of nervous energy, but it may delude him into exhausting it. The busy man should once for all rid himself of this fancy that he can create by artificial means an abnormal store of brain-power. He cannot enlarge the limits which nature has set up."—*Canada Lancet*.

Vomiting of Pregnancy.

Lutaud (*Rev. Obstet. et Gyn.*) states that vomiting of pregnancy is best treated by cocaine. The action of this drug is often strengthened by combining it with antipyrin. Thus the following prescription:

Chlorhyd. cocaine..... gr. iss
Antipyrin..... gr. xvj
Aq. dest..... ʒ iv

Sig.: Teaspoonful every half-hour until the vomiting ceases.

If the stomach will not tolerate this quantity of liquid, 10 drops of a one and a half or two per cent. solution of cocaine are administered, repeated at one or two hour intervals.

At times the application of cocaine to the os is extremely valuable. The following prescription may be used:

Hydrochlor cocaine..... gr. xvj
Ext. bellad..... gr. iv
Vaseline..... ʒ ss

Cotin's method of dilating the os with the finger sometimes causes immediate cessation of vomiting. Occasional success will follow Routh's procedure, which consists in exposing the uterine neck by means of a speculum and painting with tincture of iodine. In cases of moderate severity the following mixture will be found serviceable:

Tinct. iodine..... } ʒā ʒ ij
Chloroform..... }

Sig.: Five drops night and morning at meal-times, taken in seltzer-water.

—*Thera. Gazette.*

Bradycardia of Convalescence.

Dehio, quoted in *Deutsche Med.-Zeit.*: Slowing of the heart's action may be produced either by a lesion of the motor structures in the organ itself, or by irritation of the inhibitory fibers of the vagus, or relative paresis of the augmentor fibers of the sympathetic. We possess in atropin, which paralyzes the nerve-endings of the vagus in the heart, a means by which we can determine whether the slowing is cardiac or extracardiac. If, after the injection of atropin, the pulse beat is considerably accelerated, the fundamental condition is extracardiac.

The slow heart of convalescence is generally associated with a subnormal temperature, and does not continue, as a rule, beyond a few days or a week. It is sometimes interrupted for a time by a normal or even hypernormal pulse rate, the interruption being either transient or lasting for hours or even for days. The pulse is generally small and easily compressible, often dicrotic and sometimes irregular. Disturbances in the general condition and organic changes in the heart are wanting in the slighter cases. In other cases there may be observed all the symptoms of an acute though not necessarily very severe cardiac debility—irregular action of the heart, increase of the cardiac dullness, with systolic murmurs over the left heart. In such cases the bradycardia is not an independent functional anomaly, but only one of the phenomena of the debilitated state of the heart. Atropin accelerates the pulse to a much smaller degree in bradycardia of con-

valescence than it does in good health. This refractoriness of the heart toward atropin is proof that the condition under consideration is not due to irritation of the vagus, but to something in the heart itself; and it is to be taken as an expression of debility of the organ. This is not due to demonstrable changes, such as myocarditis, which have been described as occurring after infectious diseases, but rather to the action of ptomaines upon the heart.—*Glasgow Medical Journal.*

Virulence of Poison Ivy.

Poison ivy and the characteristic inflammation produced by it are known in different localities by several aliases. It appears not only as a vine but as a bush of considerable size, and grows abundantly almost everywhere.

The virulent principle of this plant, says an eminent specialist on diseases of the skin, is a volatile acid which exists in all its parts, especially in the leaves. All persons are not affected by it; some handle it with impunity. Actual contact with the plant is not always necessary for the production of the poisonous effects on account of the volatility of its active principle, and there is good reason to believe that persons sensitive to the poison not infrequently suffer from passing by places where the vine grows abundantly.

The plant is supposed to be most actively virulent during the flowering season, in early summer, but cases occur with great frequency during autumn. Even in winter twigs and stems are alive to mischief to those who handle them.

One writer tells of a patient who cannot drive through the woods where the poison sumach grows without subsequently suffering with the characteristic inflammation, and that in merely passing to the leeward of a field where the farmers were burning brush has been sufficient to evoke the eruption. The poisonous influence of the plant is transmitted with the greatest facility on clothing and other articles in use.—*West. Med. Rep.*

Treatment of Vaginitis.

Lutaud (*Revue Obstetricale et Gynecologique*): The treatment of vaginitis differs little, whether it be simple or specific. The physician should, above all, consider the acute and chronic vaginitis in the therapeutic point of view.

(a) *Acute Stage.*—Here the speculum should not be employed. The patient should be kept as quiet as possible, and walking, coitus, and all physical exercise forbidden. Frequently repeated injections (every six hours) with Esmarch's douche with two liters of a one per cent. solution of boric acid. Emollient injections, such as starch, flax-seed meal, or decoction of poppy heads, may also be employed. If pain is severe, one of the following suppositories is given every evening:

Ext. opil..... centigm. j
Ol. theobrom..... gms. iv

M. Ft. supposit. no. i.

This may be replaced by a little injection

containing 15 drops of laudanum. For bladder symptoms (tenesmus, pain during micturition), poultices, with laudanum sprinkled over them, bromide of potassium, emollient drinks, and alkaline diuretics are to be prescribed. It is well in these cases to discontinue wine, but light tea may be taken.

(b) *Chronic Stage*.—An injection three times a day is to be given with one of the following:

Acid carbol.....	gms. v
Alcoholis.....	gms. x
Ess. thym.....	gtts. xx

M. For two quarts of water.

Hydrarg. bichlor.....	centigrams. xxv
Acid. tartaric.....	j

M. For two quarts of water.

Potas. permanganat.....	gms.
Aq. dest.....	gms. cc

M. A tablespoonful for two quarts of water.

This last is the best remedy for gonorrhoeal vaginitis; if it did not soil linen, it would be perfect. In rebellious cases, or when it is necessary to act rapidly, a Sims speculum is introduced and the vagina is painted with a solution of nitrate of silver (2 grammes in 30 grammes of water).

Before withdrawing the speculum, a large tampon imbedded with the following is introduced:

Acid. tannic.....	gms. ij
Cocain. hydrochlorat.....	centigrams. x
Glycerial.....	gms. cxx

The tampon should be left in place for two days. No matter what may be the treatment applied in chronic vaginitis, the cure may always be hastened by the vaginal dressings, which isolate the parts and absorb the secretions. Simple dry cotton tampons are good, but when made with iodoform or salol gauze are preferable.—*Annals of Gynecology*.

Acute Anterior Poliomyelitis.

Von Kahlden (*Centralbl. f. allg. Pathologie*) reviews recent writings on the morbid anatomy of this disease, with special reference to its parenchymatous or interstitial origin. In three of Rissler's cases death occurred from six to eight days after the onset. Here there was advanced degeneration of ganglion cells, but very little change in the interstitial tissue. Rissler concludes that Charcot's view that the primary lesion is in the ganglion cells is the correct one. Two other cases in which death occurred after seven weeks and eight years respectively are reported by the same writer. From his own three cases, all of some years' standing, the author also adopts Charcot's view, as neither the destruction of ganglion cells in groups nor yet the relatively very slight disappearance of nerve fibers was to be explained by a primary interstitial lesion. In two cases of old amputation the author also saw this atrophy of ganglion cells in groups. He records an investigation into two further cases of what he terms "atypical poliomyelitis." Goldscheider concludes from his case that some irritant having established itself in the vessel wall led to marked vascular dilatation and endothelial

overgrowth, which spread to the neuroglia. The author points out that Goldscheider here uses the term "inflammation" in quite a new sense. Dauber, from an examination of a case of five days' standing, maintains the interstitial origin of the disease. The author would class this case, as well as Redlich's, as atypical. Siemerling maintains that in his two cases of ten days' and eight months' standing the disease was an acute myelitis, the anterior horns being chiefly involved. The interstitial change along with the vascular lesions showed, according to this writer, that the supporting tissue was the chief seat of the disease. The author thinks that the value of quite recent cases has been overestimated in settling this question. It is, then, often open to doubt whether the disease is really poliomyelitis, or they may be atypical cases. Slighter cases should be used to determine the starting-point of the disease. The author attaches overwhelming importance to the disappearance of ganglion cells in groups. He maintains that any lesion affecting these cells secondarily through their blood supply must be diffuse. There is no evidence why a non-corpuscular irritant circulating in the blood should involve not only the spinal cord alone, but so small a part of it as the anterior horns. The rapid onset of the disease is not explained by a secondary affection of the ganglion cells. The author refers to the intact condition of many nerve fibrils in this relation. He maintains that in his own and other reported cases the changes in the interstitial tissue do not need the assumption of an interstitial origin for anterior poliomyelitis.

Treatment of Mumps.

Dr. A. Martin (*Sem. Med.*): During a recent epidemic of mumps among soldiers, the author successfully resorted to the following treatment:

From the outset, he instituted buccal antiseptics, which, when rigorously done, according to his observations, diminishes the chances of testicular complication. He therefore had his patients gargle and cleanse the mouth as often as possible with solutions of thymol, carbolic acid or very hot 4 per cent. boric-acid solution.

Besides, during the first days of the disease he administered antipyrine in daily doses of 2-3 grammes (30-45 gra.). This, he states, more rapidly effects the resolution of the inflammatory process than do sodium salicylate and other remedies; moreover, it acts more promptly on the fever and pain.

In orchitis caused by mumps, pilocarpine subcutaneously in doses of 1 centigramme (1-6 grs.), repeated once daily, is said to have promptly diminished the pain from the first evening on, and to have lowered the temperature, which became normal on the third day. The swelling of the testicle disappeared between the eighth and tenth days. After the acute period of orchitis was passed, the patient was submitted to a tonic treatment (cod-liver oil, nux vomica, cinchona extract, meat powder, sulphur baths, etc.) for the purpose of preventing testicular atrophy.

What Cases Shall We Send to Colorado?

Dr. J. N. Hall (Texas Sanitarium): As this is quite a fair though slightly biased statement of the indications pointing to the high altitude of Colorado, it is deemed worthy of an extensive recapitulation.

1. *Phthisis*.—(a) The great benefit is obtained only when sent in the incipient stage. (b) Those cases in which digestion is fair do the best. (c) Little advantage to fibroid phthisis.

2. *Acute Pneumonia*.—Do badly if sent before resolution has occurred.

3. *Emphysema*.—Is generally contraindicated of heights in general, and Colorado is no exception.

4. *Chronic Bronchitis*.—Especially when bronchorrhoea is present does splendidly.

5. *Dyspnoea*.—Generally speaking, this symptom is really intensified by high altitudes anywhere.

6. *Pleurisy*.—Cases requiring tapping so commonly show tubercular trouble that they had better be sent as early as possible after the tapping, as prophylactic measure.

7. *Asthmatics*.—Advantages to these patients as a class very questionable.

8. *Disease of Circulatory Apparatus*.—High altitudes is a menace to all such subjects.

9. *Chronic Malaria*.—These cases do well, as they will in any non-malarial climate.

10. *Gynaecological and Nervous Cases*.—No advantage to these.—*Am. Pract. and News*.

A New Treatment of Tapeworm.

Dr. Dronke, in the treatment of tapeworm, associates the three most powerful tenifuges, thus hoping to obtain a more active therapeutic influence. His formula is:

Honey	3 v
Ethereal ext. pomegranate.....	} aa gr. vijs
Eth. ext. male fern.....	
Kousso flowers.....	5 v

M. Sig.: Divide this into three parts and take them in the morning with intervals of ten to fifteen minutes, the day before the patient living, of course, on a reduced diet.

One or two hours after taking the preparation administer an ounce of castor oil. Have the patient pass his stools into a vessel filled to the brim with warm water to avoid breaking the worm.—*Lancet Clinic*.

Electricity in Amenorrhoea.

Panecki (*Therap. Monatsch.*) has found electricity, and particularly the faradic current, the most successful means of dealing with amenorrhoea. It is necessary that the poles should be introduced into the uterus and be allowed to act there. This treatment is well borne, and the current can be increased at each sitting, the number of the latter required averaging from five to thirty, and their duration five to fifteen minutes during successive days. The author's experience includes 18 cases in which the cure of the condition was established a year or more ago, the patients still remaining well. One of these, a married woman aged 31, had never menstruated, though she was subject to per-

iodical affections (severe headache, etc.). The treatment on various lines had extended over six years, but with absolutely no success. The author, at the expiration of one of these periods, commenced the application of the faradic current, and after twenty-eight successive sittings a small flow became apparent. During the following interval six more applications were made, and the patient is now well and relieved of all symptoms.—*British Med. Jour.*

Salicylic Acid in Acute Rheumatism.

Dr. Bourget (*Rev. de Ciencias Med. de Barcelona*) concludes as follows: Absorption of salicylic acid by the skin is very rapid and intense. The skin of youthful individuals is most absorbent, while persons with white skins are more so than those with brown or black. The rapidity and intensity of its action are dependent upon the vehicle in which the acid is dissolved, and of these agnine is the best. Fatty substances greatly facilitate its penetration through the skin, while with glycerine or vaseline it is less. Treatment of acute articular rheumatism with a salve of salicylic acid and agnine is recommended. It is less serviceable in other forms of rheumatism, though it might be of value as an adjunct in massage. In general rheumatism it is inactive.

A Case of Angina from Copalba Balsam.

A young man, 22 years of age, took copalba and cubeb opiate for some days for blennorrhagic urethritis. On the seventh day appeared a confluent exanthematous rash, simultaneously with redness and congestion of the pharynx, palate and tonsils. The uvula was enlarged from oedema. Over the whole surface of the mucous membrane of the throat appeared a miliary eruption. The third day after the appearance the eruption disappeared. The patient had constant mouth-breathing and consequently chronic pharyngitis, due to post-nasal obstruction from adenoid vegetations.—*Bulletin Med.*

Vomiting of Pregnancy.

Dr. Berry, in the *Memphis Med. Monthly*, says that where the patient is of a nervous temperament, cannot retain even a sip of tea or water, a formula composed of 1 ounce of fluid extract of valerian, 16 minims of Fowler's solution of arsenic, and 1 drachm of sodii bicarb. has never failed in his hands of producing prompt relief, when given in teaspoonful doses every two or three hours.

To Hide the Taste of Chloral.

Dr. E. Holland calls attention to the fact that the taste of chloral hydrate is effectively masked by lemonade. Two or three drachms of the syrup should be placed in a tumbler with about 2 ounces of water. If to this is added about 2 ounces orso of gaseous (bottled) lemonade, the mixture may be drunk at leisure, and the soporific action of the drug is in no way impaired.—*Med. Bulletin*.

PATHOLOGY.

The Diphtheria Bacillus.

Abel (*Deut. med. Woch.*) refers to the fact that diphtheria bacilli may be found in the throat and nasal secretion after the end of the disease, and when the patient is apparently well. The period during which such patients can convey the disease lasts only a short time, corresponding apparently at most to five weeks. The author, however, reports a case in which these bacilli were found sixty-five days after the disappearance of the membrane from the throat. There was at this time a fibrinous exudation in the nose from which they could be cultivated and experimented with. It has been shown that the nasal mucous membrane is a good cultivation soil for the diphtheria bacillus. This case was an example of a fibrinous rhinitis upon a diphtherial basis. Nasal diphtheria is a rare disease, with foetid nasal discharge and severe symptoms. Fibrinous rhinitis is also an acute process, but the pharynx escapes and the temperature and general condition remain undisturbed. It appears in most cases to be a mild form of diphtheria, but it is not always so, for other micro-organisms may excite it. Patients suffering from it are not suspected and may thus convey the disease to others. The author thinks that diphtheria patients should not be discharged until a bacteriological examination has proved the absence of diphtheria bacilli. Experiments show that the bacilli cultivated from fibrinous rhinitis are virulent. The author records such a case in a boy, aged 9 years, in which colonies of virulent diphtheria bacilli were found along with the strepto and staphylococcus. The boy had not suffered from diphtheria, but his mother had just recovered from it. The bacilli disappeared when the membrane did. The author refers to another similar case, also proved to be due to the diphtheria bacillus.

Contagiousness of Cancer.

At the eighth meeting of the French Congress of Surgery, held at Lyons, October 9th to 13th (*Sem. Med.*, 10th), Guelliot, of Reims, presented a communication embodying the results of an inquiry as to the contagiousness of cancer begun in 1891. The number of cases collected by him in which cancer appeared to have been communicated by contagion was forty. In the author's opinion his facts show: 1. That cancerous affections are unequally distributed in adjoining districts, and that neither heredity nor consanguinity is adequate to account for this. 2. That there are real cancer houses, the dwellers in which, though having no link of blood relationship between them, are successively or simultaneously attacked by malignant tumors. 3. That cases of cancer attacking two persons living together are relatively frequent. Of 100 such cases, published and unpublished, in 85 the persons attacked were man and wife; in 8 they were medical practitioners who had been specially engaged in the treat-

ment of cases of malignant disease. According to the author these facts tend to show that cancer is transmitted, directly or indirectly, and that it runs its course as an infectious disease with the average incubation of from a few months to two years, a primary lesion, then generalization. In discussing the paper, Delore, of Lyons, stated that cancer seemed to him capable of being transmitted by pregnancy. Fifteen years ago, at the congress of Blois, he had brought forward a case in point.

THERAPEUTICS.

Lactophenin.

Roth (*Wien. klin. Woch.*) discusses the use of this drug in acute rheumatism. It has hitherto been chiefly used as an antipyretic, hypnotic and antineuralgic. The author draws attention to the occasional failure of the salicylates in acute rheumatism, and to the dangers at times attending the use of antipyrin, antifebrin and even sulphonal. He has noticed after lactophenin a temporary feeling of weight and heat in the epigastrium, which has disappeared on further use. Occasionally there has been some cyanosis, but without other symptoms. The dose given has been from 5 gr. to 1 gr., and this may be increased up to 6 gr. in the day. He refers to the use of this drug in enteric fever by v. Jaksch. Lactophenin has also been used in pneumonia, influenza, erysipelas, acute febrile tuberculous affections, scarlatina, sepsis, and acute and chronic rheumatism, but the number of cases of acute rheumatism is small. The author gives details of 8 cases of this disease, and refers to 20 more in which he has used lactophenin with good results. He concludes (1) that the pain and swelling disappear generally within forty-eight hours; (2) that the temperature continues low; and (3) that no unpleasant by-effects were observed, notwithstanding large doses. He has also found lactophenin useful in some cases of chorea and in the pains of locomotor ataxy. Lactophenin is worthy of being placed along with the salicylates as an antirheumatic.

Menthol in Diphtheria.

F. Kastorsky (*Wratch*, No. 24, 1894) reports 37 cases of diphtheria (in 3 adults and 34 children) treated and cured by painting with a 10 per cent. alcoholic solution of menthol. The paintings, by means of a piece of cotton wool, were usually carried out three times daily. In some cases, however, a single free application was followed by complete disappearance of false membranes within two days. A marked improvement in the patient's general condition was invariably noticed from the beginning of the treatment. The same simple method was successfully practiced by the author in numerous cases of anginas of various forms, and by Trutovsky in a group of cases of scarlatinal diphtheria. The paintings are said to be painless and quite harmless.

Duboisin as a Hypnotic

P. S. Skuridin (*Vratch*, 1894, No. 21) used hypodermic injections of duboisin in 21 cases of sleeplessness in the insane, the dose varying from $\frac{1}{100}$ to $\frac{1}{5}$ grain, and the grand total of injections amounting to 360. In 153 (42 per cent.) cases the duration of induced sleep exceeded six hours, while in 128 (85 per cent.) it oscillated between four and six hours, and in 62 (18 per cent.) was under four hours. In 19 (5 per cent.) the drug failed altogether. The writer comes to the following conclusions: (1) Duboisin will occupy a prominent place among hypnotics for the insane; (2) the best results may be expected in epilepsy, periodical insanity, and acute mania and mental confusion; (3) the hypnotic effect is a secondary phenomenon, developing consecutively to the subsidence of a motor or muscular excitement. Hence the drug proves most useful in insomnia caused by intense motor excitation. In sleeplessness depending upon illusions, hallucinations or organic brain disease, but unaccompanied by distinct motor disturbances, the remedy remains inefficacious; (4) the drug is free from accessory ill effects.

Treatment of Seborrhæic Eczema in Children.

Feulard (*Jour. des Prat.*) observes that attention must be given in the first place to the diet, which should be limited to milk, with the addition, in older children, of eggs. In the local treatment the first step is the removal of crusts, which may be effected by using warm coal-tar lotions, preceded, if necessary, by poultices. After the crusts have been removed he uses gauze compresses soaked in a solution of resorcin (6 in 1,000). These are kept constantly applied to the scalp by day, and are applied frequently to the face. By night an ointment is used, consisting of one part of balsam of Peru to 30 parts of vaseline. Later he uses fine starch powder or a powder consisting of equal parts of starch and carbonate of bismuth. Recovery is rapid if the instructions as to diet are strictly observed and the dressings used with regularity.

GYNECOLOGY.

Treatment of Distention of the Fallopian Tubes.

At the late meeting of the American Association of Obstetricians and Gynecologists Frank. A. Glasgow, of St. Louis, read a paper which was intended to bring before the profession a method of curing tubal distention by means of intrauterine treatment in contradistinction to ovariectomy and removal. By this means the uterine ends of the tubes are made more patulous, and a discharge takes place from the tube through the uterus. The author called attention to the fact that the tubes, so far as his observation goes, are always pervious at the outer extremity of the cornu; hence, when removing them, we must

always clamp them before cutting. The obstruction must be within the uterine wall, probably in the endometrium; hence gonorrhæal inflammation is not an adhesive inflammation, and therefore it does not follow that the tubes have a true atresia following this inflammation. His opinion was that the closure is due to a swelling of the endometrium, and hence a closure at the uterine end takes place. When this inflammation and swelling are overcome by pressure and antiseptics the tubes become patulous again. The intra-abdominal pressure will cause fluid in any pendent portion of the tube to ascend into the uterus. The foregoing procedure can be carried out in three different ways: 1. By gradually packing with gauze without anaesthesia. 2. By rapid dilatation of the cervix and packing with gauze after curetting. This is done under anaesthesia. 3. The author's own method of dilating by means of antiseptic or sterilized elm-bark tents. These tents are small strips of elm bark, made just long enough to enter the cervix completely and not press on the fundus. They should be kept in an alcoholic solution of mercuric chloride (1 to 4,000) and have a short string attached, by means of which they may be withdrawn. They are partially broken in a number of places for the purpose of making them more pliable. They may be dipped into glycerine or water just before introduction. These tents may be used when it would be impossible to pack with gauze. He had treated twenty or more cases during the past year, and did not recall one in which he did not get some discharge from the tent. All the cases were either cured or very much benefited.

Cancer of the Pregnant Uterus.

Hernandez (*Archives d'Obstet. et de Gynee.*) concludes, from personal experience and statistics, that the following rules should guide: 1. In any case where cancer is detected in pregnancy the uterus and appendages should be removed at once if possible, whatever be the stage of gestation. 2. The surgeon should be careful to prevent all contamination of the operation wound by cancerous products and to remove the whole new growth. 3. Having isolated the new growth by a few sutures, he should, in a case in the first three months of pregnancy, perform vaginal hysterectomy; after the fourth month Mackenrodt's abdominal hysterectomy will be called for. Before the middle of the seventh month the uterus is to be removed at once, although the child may be alive. If the child be viable, Caesarean section must first be performed, the uterus being removed afterward. 4. When the cancer is too advanced to allow of its removal, the surest way to save the child must be considered. 5. Early diagnosis can alone insure anything like a definite cure, hence it is our duty to look out for uterine cancer in pregnant women. In conclusion, in order that we may learn how far a permanent cure is possible, all cases should be accurately recorded. The state of the operation cicatrix should be reported when death occurs after recovery from the operation.

SURGERY.

Appendicitis.

W. G. McDonald, of Albany, presented to the American Association of Obstetricians and Gynecologists a paper embodying the results of a clinical study of 84 cases. He thinks that out of the great mass of literature on the subject three important landmarks are established: 1. That for all practical purposes all inflammatory processes in the right iliac fossa arise from the appendix. 2. That practically the appendix is always intraperitoneal, and that any operation undertaken for appendicitis that does not involve the entering of the peritoneum is false in its surgical conception. 3. That idiopathic peritonitis does not occur. That many cases diagnosed as such are really cases of perforating appendicitis. The author classified the varieties: 1. Acute perforating, fulminating appendicitis with general peritonitis. 2. Acute suppurating appendicitis with local plastic peritonitis and abscess. 3. Subacute appendicitis, variously termed catarrhal, chronic, relapsing or obliterating appendicitis, or appendicular colic. The perforation occurs very much earlier than is commonly believed. Acute suppurative appendicitis with local peritonitis presents the most favorable field for operation during the attack. The removal of the appendix is to be undertaken with great circumspection when it lies in the walls of an abscess cavity. The third group of cases does not require operation during the first attack, but if repeated attacks occur, operation during quiescence is demanded. Operative results in these cases are most favorable.

Cancer of the Kidney.

Alm (*Hygiea*) publishes the following case: A man, aged 39, had for six or seven years been subject to recurrent attacks of hæmaturia, at first only a few times yearly, but during the last three years oftener. The attacks came on independently of exertion or any other cause, and were not, as a rule, preceded or followed by any pain. Between the attacks the urine had been normal, but it had during the last years shown a trace of albumen. Only once, a few years ago, had he passed a small stone, the size of a pin's head. No tenesmus, not even during the attacks. Three years ago a hardening began to be felt under the right costal margin, and this has gradually increased in size until a year ago, since which time the patient thinks it has increased more rapidly. The tumor has never been tender, but on examination there has been slight pain. As the attacks of hæmaturia have become more frequent, the patient's general health has been reduced. The tumor, which could be felt midway between the costal margin and Poupart's ligament, was hard and almost round, the size of a man's fist. It was freely movable and could be pushed up so that its upper part disappeared under the costal margin. Its surface was somewhat uneven. The ascending colon ran obliquely across it. Ne-

phrectomy was performed, as the left kidney was found normal and no metastases were detected in the peritoneal cavity. The patient made an uninterrupted recovery. On examination the tumor was found to be a primary carcinoma. That the hæmaturia from the first, six or seven years ago, was caused by the malignant new growth the author believes for the following reasons: There had never been any symptoms of stone or disease of the bladder. All the symptoms pointed to the kidney being the cause of the bleeding. Only once a very small stone had passed, but too small and smooth to cause hæmaturia; in the extirpated kidney there was no concretion found, and in the left none could be felt. Although cases of hæmaturia occur when on laparotomy nothing pathological can be detected, when as in this case a malignant tumor appears after a few years' time, is it rash (the author asks) to conclude that this has been the cause of the hæmaturia from the first?

Congenital Dislocation of Hip.

Bradford (*Ann. of Surg.*), from a general review of the literature of the subject and from his own experience, comes to the following conclusions: (1) That the methods of treatment by traction, or by mechanical means, crutches, splints, recumbent traction, with or without tenotomy, do not effect a cure; (2) correction by means of forcible reduction without incision can be applicable in but few cases and is not reliable; (3) that the method of operative reduction offers the best prospect of a cure. The method at present, however, involves risks and is not certain in its results, but it is to be expected that further experience will give greater precision and more certain results, as no inherent difficulties lie in the way of operation; that the condition of the shortening of the muscles, the shortened condition of the anterior bands of the capsular ligament, forms an important obstacle to complete reduction, and that these fibers should be thoroughly divided, and this is best done, according to the author, from in front rather than from behind. Myers (*ibid.*) discusses the same subject. Of 113 cases of which he has notes, in none of them was there pronounced flexion or adduction; 31 per cent. suffered from pain at times, especially during periods of very rapid growth. The attacks of pain were generally recurrent, and these cases seemed to show a considerable amount of shortening. The author thinks it improbable that the true reposition can be made without an open operation, since the originally shallow acetabulum is generally still further filled up, and the hour-glass form of the capsule would itself prevent replacement. By conservative treatment a great deal can be accomplished for these cases in some instances. In view of the good results already obtained by operation, and the even more promising character of the latest reports, we may, the author thinks, undertake the treatment of these cases with the assurance that we can benefit them very materially in a comparatively short time.

Strophanthus in the Treatment of Dip-somania.

Dr. Skworzow accidentally discovered the value of this drug in a case of an old toper of sixty-three, who, during dipsomaniac attacks, was accustomed to drink large quantities of brandy. Strophanthus was given on account of weak heart's action and an intermittent pulse, in doses of 7 drops three times a day. After the first dose the patient was seized with nausea, and had such a repugnance to alcohol that he stopped its use then for good. In two other cases he also succeeded by the use of this drug in aborting the attack at once. In all these three cases it produced nausea and profuse sweating, which symptoms are rarely observed in abstemious persons. It is worthy of note that in none of these cases was the sudden withdrawal of alcohol followed by delirium, as is usually the case.—*Lancet Clinic.*

Painful Peritoneal Adhesions.

Nicaise (*Rev. de Chir.*) states that the use of antiseptic methods and the consequent development of antiseptic surgery have made surgeons better acquainted with peritoneal adhesions, and have led to their successful treatment by operation. These adhesions may give trouble by disturbing the functions of implicated organs, and by exciting pain. The painful sensations vary in character and intensity in different cases. They may be caused by displacement of the organs to which the adhesive bands are attached, or by constriction of the intestinal canal. "The pains in the latter condition are often very severe, and of a similar nature to those of hepatic and renal colic. The diagnosis of peritoneal adhesions is often very difficult; in some cases their existence can be assumed only by a process of exclusion, while in others certainty as to their presence or absence cannot be attained except by an exploratory laparotomy. The author is of opinion, however, that a diagnosis may be made in many cases by close inquiry concerning such details as the previous occurrence of abdominal inflammation; the seat of the pain, and the relation of such seat to that of old inflammatory attacks; the time when the pain comes on with regard to the taking of food; and, in females, to the periods of menstruation. As many peritoneal adhesions become longer and thinner, and have a tendency to disappear, there should be no hurry in having recourse to operative treatment. When, however, they cause very severe and frequently renewed pain, although the compression of an abdominal belt or bandage or massage may give relief, the only method of dealing effectually with such trouble is the performance of laparotomy and the destruction of the adhesions. The cure that may be thus effected will be complete and permanent; but, it is pointed out, as laparotomy is a serious operation unless practiced under very strict antiseptic conditions, it ought not to be applied in cases of peritoneal adhesions unless these cause intolerable pain.

Arterial Catheterism.

In the *Progres Medical* there is an article on this subject by Professor Severeau, of Bucharest, who says that he thinks he is the first one to propose the practice of introducing a catheter into an artery in certain cases. He has practiced it in cases of gangrene due to embolism, as an adjunct to amputation of the mortified part. The procedure consists simply in inserting a small flexible catheter (rendered thoroughly aseptic by means of alcohol and carbolic acid) its whole length into the lumen of the artery by means of to-and-fro movements. When the blood begins to flow alongside of the catheter the latter is withdrawn and clots are then ejected from the artery, so that the course of the blood circulating in it is re-established. The capillary hemorrhage from the flaps then becomes more abundant and the tissues assume a brighter hue. To this procedure the author attributes it that he has ceased to encounter gangrene of the flaps and has obtained their union by first intention. Sometimes, he says, owing to adhesions between the clot and the wall of the artery, it is impossible to make the instrument penetrate the artery, and in such cases it is not uncommon to see a portion or the whole of the flap become gangrenous.—*Omaha Clinic.*

The Operative Treatment of Ulcer of the Stomach.

At the late congress of German surgeons, Knester reported the case of a 21-year-old man who showed symptoms of ulcer of the stomach soon after straining himself severely at lifting. A year or so afterward severe hemorrhage from the stomach occurred so frequently that the patient was brought to the point of death. The much dilated stomach was opened and a deep ulcer was found on the posterior wall near the pyloric end. This was thoroughly cauterized with the Paquelin, and as no opening into the intestine could be found a wide communication between the stomach and the jejunum was made. The patient recovered completely and is able to do any kind of work.

BACTERIOLOGY.

Effects of the Sun on Bacteria.

The recent study of micro-organisms has explained facts which we know to exist, but for which no intelligent reason could be given. The power of the sun's rays in destroying or modifying the action of many of the innumerable varieties of micro-organisms has been demonstrated in a marked degree, especially by the experiments of Dr. Palermo, of Naples. It was found that Koch's cholera bacilli, now almost universally credited with producing cholera in man, and which are fatal to guinea-pigs in about eighteen hours, if exposed to the sun's rays from three and a half to four hours, were perfectly harmless.

In these experiments another fact was brought out which may prove of great importance. It was found that guinea-pigs in whom inoculation had produced marked attacks of cholera from which they had recovered were safe against any further attack, repeated inoculation producing no effect. If this is true of the pig, why may it not hold good in the human being, the inoculation not only producing a milder form of the disease, like kine-pox, but rendering it cholera-proof?—*Med. Times.*

OTOLOGY.

The Reciprocal Relations of the Two Ears.

Dr. Urbantschitsch, of Vienna, remarks that although the relations between the two eyes, especially the so-called sympathetic affections of the eye, have long been known, those between the two ears have hitherto attracted little attention. It seems, from the studies of the author, that they may often be demonstrated, and that they are sometimes of much practical importance.

In bisauricular audition it has been already observed that an ear in which the hearing is notably diminished may exercise a stimulant influence upon the other organ. The treatment of one ear augments the therapeutic effect obtained on the other even when the treatment has no beneficial effect upon the hearing of the first. One fact, especially, possesses great interest, viz.: by an operative procedure upon the transmitting apparatus of one ear we may not only arrest the diminution of hearing upon the other side, but obtain a decided amelioration and sometimes a return to the normal condition.

These reciprocal relations between the two ears, and especially the synergistic effects of accommodation, deserve attention and permit the hope that we may sometimes intervene with success—at least, in one of the ears—in certain cases of progressive deafness.—*Revue de Laryngologie.*

ARMY AND NAVY.

CHANGES IN THE U. S. ARMY FROM OCTOBER 28, 1894, TO NOVEMBER 3, 1894.

Captain Walter W. R. Fisher, Assistant Surgeon, will be relieved from duty at Fort Columbus, N. Y. H., upon the expiration of his present leave of absence, and will report for duty at Fort Meade, South Dakota, to relieve Captain Norton Strong, Assistant Surgeon.

Captain Strong, on being relieved by Captain Fisher, is ordered to Fort Sheridan, Illinois, for duty at that post, relieving First Lieutenant George J. Newgarden, Assistant Surgeon.

Lieutenant Newgarden, on being relieved by Captain Strong, is ordered to Fort Wayne, Michigan, for duty.

So much of the special order as directs Captain Ogden Rafferty, Assistant Surgeon, to

report to the commanding officer Presidio of San Francisco, California, for duty, is revoked.

Leave of absence for six months, on surgeon's certificate of disability, is granted Major Clarence Ewen, Surgeon.

So much of the order as assigns Major William H. Gardner, Surgeon, to Fort Custer, Montana, is revoked.

So much of the order directing Captain Alfred E. Bradley, Assistant Surgeon, to report for duty at Fort Keogh, Montana, is amended as to direct him, upon the abandonment of Fort Sully, South Dakota, to report for duty at Fort Custer, Montana.

Leave of absence for four months, to take effect upon the final abandonment of Fort Ontario, New York, is granted Major John V. Lauderdale, Surgeon U. S. Army.

NEWS AND MISCELLANY.

New York State Association of Railway Surgeons.

Fourth annual meeting to be held in the Academy of Medicine, 17 West Forty-third Street, New York City, Thursday, November 15, 1894.

PAPERS.

1. President's address, "Important and Unsettled Questions in Railway Surgery."

SPECIAL TOPIC.

2. Shall we amputate? Or shall we wait? When shall we amputate? (a) "Arguments Favoring Early Amputations," by Dr. W. L. Estes, South Bethlehem, Pa. Discussion by Dr. J. B. Murdoch, Pittsburg, Pa.; Dr. J. S. Wight, Brooklyn; Dr. A. P. Grinnell, Burlington, Vt. (b) "Arguments Favoring Delayed Amputations," by Dr. T. M. Manley, New York City. Discussion by Dr. C. M. Daniels, Buffalo; Dr. J. S. Wight, Brooklyn; Dr. A. P. Grinnell, Burlington, Vt.; Dr. J. B. Murdoch, Pittsburg, Pa. (c) "Technique of Amputation," by Dr. John A. Wyeth, New York City.

3. "Asepsis and Antisepsis in Surgical Work," by Dr. F. A. Stillings, Concord, N. H. Discussion opened by Dr. A. P. Grinnell.

4. "Special Features in Railway Surgery," by Dr. C. B. Herrick, Troy. Discussion opened by Dr. G. P. Conn, of New Hampshire.

5. "The Immediate Care of Railway Injuries," by Dr. J. A. Van Duyn, Syracuse. Discussion opened by Dr. Geo. Chaffee.

6. "Important Factors in Unusual Results Following Traumatisms," by Dr. R. S. Harnden, Waverly. Discussion by Dr. P. A. Skiff, Frankfort; Dr. C. S. Parkhill, Hornellsville.

OFFICERS FOR 1894.

President, M. Cavana, Oneida; Vice-Presidents, R. S. Harnden, Waverly, C. S. Parkhill, Hornellsville; Secretary, J. B. Hewlitt, Middletown; Treasurer, J. F. Valentine, Brooklyn.